

The Leadership Challenge Ahead

Trends that will dominate the future agenda

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THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

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Preface

As part of its mission to serve as a catalyst to change the way decisions are made in government, the Kentucky Long-Term Policy Research Center presents its third biennial trends report, which examines four broad trends affecting Kentucky: the rise of the wired community, a shifting economic paradigm, a deepening divide, and changing governmental responsibilities. Some of the material in this report has appeared in previous Center documents such as: *The Context of Change*; *Farms, Factories and Free Trade*; *Exploring the Frontier of the Future*; *Entrepreneurs and Small Business—Kentucky's Neglected Natural Resource*; *Civil Society in Kentucky*; and *\$5.8 Billion and Change*. The CD-ROM included with this book compiles five years of work at the Center. It contains 12 full books, the Kentucky State Budget Game, and several articles that appeared in *Foresight*, our quarterly publication. This report should interest all policymakers and citizens who are concerned about creating a bright and prosperous future for the Commonwealth.

THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

The Center was created by the General Assembly in 1992 to bring a broader context to the decisionmaking process. The Center's mission is to illuminate the long-range implications of current policies, emerging issues, and trends influencing the Commonwealth's future. The Center has a responsibility to identify and study issues of long-term significance to the Commonwealth and to serve as a mechanism for coordinating resources and groups to focus on long-range planning.

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Foreword

The Board of the Kentucky Long-Term Policy Research Center is pleased to present the third in its series of biennial trends reports, *The Leadership Challenge Ahead*. In this report, the Board and staff of the Center have chosen to focus on trends of sufficient scope and momentum to warrant ongoing discussion and attention. Our surveys of the landscape indicate that many of the trends we have explored more fully in other reports and publications continue unchecked. They include, among others, the welcome and unanticipated population growth our state has enjoyed in the 1990s, the aging of our population, the globalization of the economy, unrelenting stresses on the state's traditional core industries, and entrenched poverty.

In addition to the sharpened focus we bring to this report, it includes what is essentially an encyclopedia of the Center's work. The hundreds of files contained on the enclosed CD-ROM will enable ready and refined access to topics of interest and illuminate the broader scope of issues influencing the Commonwealth's future.

The following chapters focus on four major trends that are profoundly influencing the society in which we live. Some are overtly affecting our day-to-day lives; others are having a more subtle and gradual impact on the world in which we live, one that could swell to problematic proportions in the absence of thoughtful responses. These trends are certain to have a significant effect on the future of our state and to compel the attention of citizens and policymakers alike for years to come. Here, we consider the rise of the "wired" community, that is, the electronic network that is knitting the fabric of a new economy and a new social order; the changing economic paradigm that has irrevocably linked the path to economic prosperity with the pursuit of higher and continuous learning; the deepening economic divide of income inequality that continues to frustrate our ability to make progress in so many arenas; and, finally, the restructuring of governmental and, ultimately, citizen responsibilities for future challenges.

We invite you to explore these trends and join with us in meeting the leadership challenge ahead for our state, our communities and our families.

Dr. Penny Miller
Chair of the Board

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Summary

At the very end of this millenium, we have, for the first time in history, machines that can think. As computers become increasingly powerful, they will permeate our everyday lives, to the point that we might not even realize when we are using one. The effect of information technology is so broad and so deep that people have coined weighty terms such as “The Third Wave,” “The Information Age,” and “Being Digital” to describe what is happening to the economy, to education, to government, to entertainment, to communications, and to everything else touched by technology.

In this, our third biennial trends report, we trace the effects of information technology on Kentucky’s economy, then society, and last government. By speeding the processes of globalization, information technology is changing our industries and businesses, and consequently is making brains increasingly more valuable to employers than brawn. The rising demand for what might be termed “knowledge workers” is polarizing wages and increasing inequalities in education and health care. Other changes in our society—most notably the aging of the population—will add to the burdens of the public sector. Consequently, the federal government is shifting some responsibilities to state and local governments, which in turn are relying more on the private and the nonprofit sectors to provide services. As governments at all levels strive to become more efficient, information technology will become the centerpiece of reform.

The Rise of the Wired Community

The emergence of the information technology revolution has fundamental implications for governance, politics, health care, education, social relations, and the economy. In short, it has affected and will continue to alter all aspects of our lives. Indeed, as suggested by Donald J. Johnston, the Secretary-General of the Organization for Economic Cooperation and Development (OECD), mankind has never experienced anything like the transformation that is enveloping us. And few would accuse the Secretary-General of hyperbole.

From a vantage point enhanced by years of rigorous study and careful observation, social philosopher Peter F. Drucker views the era in which we now live as epochal. Our society, he suggests, is in the process of rearranging itself, reshaping the institutions that have historically been its cornerstones and becoming something that would be unrecognizable to most of us. The extraordinary era we live in is characterized by rapid change driven by technology and our ongoing struggle to harness it and adapt to the consequences of its broad-based application. It has made distance meaningless, advanced global commerce—and competition—and forced a reckoning with assumptions about the organization and conduct of work. At the same time, it has raised the

skills ante to new, ever rising heights that are making flexibility and lifelong education a growing imperative.

Moreover, technology promises to make the mantra of the 1960s, “power to the people,” a reality, as electronic networks override and render obsolete the hierarchies and paradigms that have dominated work, government, and the larger economy, as well as our fundamental world view. The former gatekeepers of information are simply being bypassed by the computer literate. For them, empowerment no longer occurs at the discretion of industry or government leaders, but as the natural outcome of free-flowing information and virtually unlimited opportunities to contribute and participate, if not in one’s own immediate environment, then in a worldwide community of users with similar interests. The increasing affordability and availability of information is gradually enriching public discourse and diffusing power to citizens, informing decisions they make as consumers, voters, and workers. Our ability to tap that power here in Kentucky, to raise computer literacy levels and broadly expand access, will in many ways determine our future.

A Shifting Economic Paradigm

Our economy is constantly changing. Sometimes the changes are gradual; sometimes they surge at breakneck speed. In recent years, the pace of change has quickened, largely as a result of technological advances. Consider, for example, the Internet. Internet-based commerce increased 1,000 percent from 1996 to 1997 and is expected to account for nearly 5 percent of global commerce by the early part of the next decade. The number of people in Canada and the United States who make purchases on the Internet doubled from 10 million to 20 million between September 1997 and June 1998. Information technology and falling trade barriers are accelerating the processes of globalization, which affects every sector of the economy, every industry, business, and individual worker.

Global competition is a part of our daily economic lives and will require new responses from both the private and public sectors. While some traditional industries may wane, others requiring new corporate strategies and different kinds of workers will emerge. Meanwhile, itinerant companies on the run from high wages, environmental regulations, and taxes will make industrial recruitment increasingly ineffective. Entrepreneurism and competitive home-grown businesses that respond to market needs will emerge as the new focus of economic development. Technology that reduces distances between buyers and sellers could become a tremendous asset to rural entrepreneurs.

Public policy may also change as the understanding of the relationship between the environment and the economy changes. Most importantly, our economic prosperity will be determined by the knowledge and skills of all Kentuckians. A population that values and appreciates the importance of learning produces not just better workers but also better university research, more responsible policymaking, and ultimately a higher standard of living.

A Deepening Divide

As of the mid-1990s, the distance between those at the top and those at the bottom of the nation's economic ladder was wider than at any time since 1947, according to the Census Bureau. And the climb out of poverty had become far more improbable. In 1995, researchers concluded that the U.S. income divide was the worst among the world's industrialized nations, including those with long-established class systems. Regarded by some economists as a social and economic issue without rival on our horizon, income inequality will likely pursue U.S. policymakers into the 21st Century. Some economists conclude that the widening gap between rich and poor reaches well beyond low-income households, fostering undereducation, skill shortages, and diminished productivity and competitiveness that affect everyone. Still others point to the potential for social unrest that lies in the emergence of a class system that affords little economic and social mobility and reserves the lion's share of benefits of economic growth for the wealthy. In spite of a buoyant economy, the nation's social health is rated poor. This deepening divide, which is more pronounced here than in most of the nation, blocks social and economic prosperity.

Changing Governmental Responsibility

Government cannot directly control many of the forces affecting Kentucky's economy, social structures, institutions of education, families, and citizens. Nevertheless, many look to government for help in responding to and navigating through the tumultuous times ahead. But government does not exist in isolation from its citizens. The same trends and forces that are the source of great consternation and infinite optimism for citizens are also affecting government. But government's ability to respond to these new forces is hampered by its commitment to grapple with old challenges. Already we are witnessing a redistribution and redefinition of governmental responsibilities in our country that has come partly in response to unprecedented fiscal pressures. In coming years, these pressures will mount and, increasingly, we may look more to one another and to the communities in which we live for the support we historically expected from government. Irrespective of our political opinions or ideological persuasions, the extent to which we anticipate and prepare for these shifts in responsibility will affect our ability as a state to manage the challenges ahead.

Acknowledgments

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THE RISE OF THE WIRED COMMUNITY

*Our generation stands on the very cusp of the greatest technological revolution that mankind has ever faced. Some compare this age of electronic communication with the arrival of the Gutenberg press, or with the industrial revolution. Yet this revolution when it has run its course may have a greater impact on the planet than anything that has preceded. The applications of electronic transmissions are just beginning to be felt . . . and the breadth and depth of what lies ahead is only beginning to be fathomed. How and where we are educated, where and how we work and live, our health care systems, our shops, our commerce, our reading, our leisure . . . no part of the human enterprise will be spared. Even our notions of sovereignty and governance could be profoundly affected.*¹

— Donald Johnston, *The Sacher Group Report*

THE EMERGENCE OF THE INFORMATION TECHNOLOGY REVOLUTION HAS FUNDAMENTAL implications for governance, politics, health care, education, social relations, and the economy. In short, it has affected and will continue to alter all aspects of our lives. Indeed, as suggested by Donald J. Johnston, the Secretary-General of the Organization for Economic Cooperation and Development (OECD), mankind has never experienced anything like the transformation that is enveloping us. And few would accuse the Secretary-General of hyperbole.

From a vantage point enhanced by years of rigorous study and careful observation, social philosopher Peter F. Drucker views the era in which we now live as epochal. Our society, he suggests, is in the process of rearranging itself, reshaping the institutions that have historically been its cornerstones and becoming something that would be unrecognizable to most of us.² The extraordinary era we live in is characterized by rapid change driven by technology and our ongoing struggle to harness it and adapt to the consequences of its broad-based application. It has made distance meaningless, advanced global commerce—and competition—and forced a reckoning with assumptions about the organization and conduct of work. At the same time, it has raised the skills ante to new, ever rising heights that are making flexibility and lifelong education a growing imperative.

Moreover, technology promises to make the mantra of the 1960s, “power to the people,” a reality, as electronic networks override and render obsolete the hierarchies and paradigms that have dominated work, government, and the larger economy, as well as our fundamental world view. The former gatekeepers

¹ *The Sacher Group Report* (1998): online, Organization for Economic Cooperation and Development Web site (http://www.oecd.org/dsti/sti/it/ec/prod/sacher_e.pdf), Internet, 13 Oct. 1998.

² Peter F. Drucker, “The Age of Social Transformation,” *Atlantic Monthly* Nov. 1994: 53-80.

of information are simply being bypassed by the computer literate. For them, empowerment no longer occurs at the discretion of industry or government leaders, but as the natural outcome of free-flowing information and virtually unlimited opportunities to contribute and participate, if not in one's own immediate environment, then in a worldwide community of users with similar interests. The increasing affordability and availability of information is gradually enriching public discourse and diffusing power to citizens, informing decisions they make as consumers, voters, and workers. Our ability to tap that power here in Kentucky, to raise computer literacy levels and broadly expand access, will in many ways determine our future.

The Importance of Access to and Use of Information Technology

RESEARCH SHOWS THAT BECAUSE INFORMATION TECHNOLOGY PERMEATES SO many aspects of our lives, access to and use of it appear to be preconditions for anyone becoming politically informed, socially integrated, and economically successful in the Information Age.

We know, for example, that individuals who use computers are better informed about political, community, and social issues than those who do not use computer-based communications.³ One recent headline asserted, "Internet may help rescue the democratic process."⁴ The author cites several examples of how the Internet and the Web have made it easier for citizens to become more informed. "In two minutes," he notes, "you can check on the status of the Internet Tax Freedom Act, the Texas Radioactive Waste bill or the Slave Labor Products Act of 1997" by accessing the Library of Congress' Web site (<http://thomas.loc.gov/>).⁵ A similar level of detail is available on state-level politics and governance in Kentucky.⁶

The "net" effect on political participation appears to be positive. The emergence of electronic networks, such as the Internet, facilitates the crumbling of "status-based social structures"⁷ and thus benefits the politically or economically disadvantaged. Social scientists have found that "... for on-line groups, ascribed and achieved status characteristics such as age, race, gender, formal position or title, and socioeconomic level are far less likely to determine interaction patterns, leadership roles, decisionmaking influence, and other outcomes in comparison to groups that meet in person."⁸

In a marketplace that is frequently influenced by the biases of consumers, the relative anonymity of the Web is enabling equal opportunity for entrepre-

³ Robert H. Anderson, Tora K. Bikson, Sally Ann Law, and Bridger M. Mitchell, *Universal Access to E-Mail: Feasibility and Societal Implications* (Santa Monica, CA: RAND, 1995) 14.

⁴ Phil Mitchell, "Internet May Help Rescue the Democratic Process," *Lexington Herald-Leader* 15 Oct. 1998: A13.

⁵ Mitchell.

⁶ See the Commonwealth of Kentucky state government home page at <http://www.state.ky.us> or the Kentucky General Assembly's home page at <http://www.lrc.state.ky.us/home.htm>.

⁷ Anderson, et al.: 17.

⁸ Anderson, et al.: 17.

neurs whose success might otherwise be adversely affected by discrimination. "The Net's cool anonymity proves an advantage to minority business owners, allowing them to bypass real-life tensions by masking their racial identity," *Business Week* observes.⁹ On a genuinely level playing field, Web-based businesses rise and fall on the quality of the products they sell, rather than the racial identity of their owner. Perhaps more importantly, the Net has dramatically lowered business costs, further democratizing opportunity.

Finally, ample evidence suggests that access to computers and information networks has broad economic benefits for workers. Using a statistical model to examine the relationship between wages and computer use, our estimates show that wages are higher in businesses that use computers.¹⁰ According to these estimates, workers in businesses that use computers earn 10 to 20 percent more than workers in comparable businesses who do not use computers. This finding is consistent with other studies reporting that technology use on the job raises the earnings of workers.¹¹ At least one national study estimates that workers who use computers earn about 10 to 15 percent more than workers who do not.¹² Consequently, barriers to technology use may limit access to better-paying jobs.

Clearly then, access to and use of information technology are vitally important. Indeed, RAND researchers claim that "...there (are) reasons to view economic and social stratification of computer and network use differently from the socioeconomic stratification that characterizes the consumption of other goods and services."¹³ Because those who use the technology are, by definition, better informed, "different levels of access to computer-based communication technology, then, may further stratify individuals and create information havens alongside the information elite."¹⁴ And this stratification is likely to become more problematic as public and private institutions increasingly disseminate information electronically.

Levels of Access and Use

ONE RECENT STUDY FOUND THAT AMERICANS ARE BECOMING INCREASINGLY intertwined in the wired community.¹⁵ As illustrated in Figure 1, the percentage of U.S. households with computers, modems, and electronic mail increased rapidly from 1994 to 1997.

⁹ Roger O. Crockett, "Invisible—and Loving It," *Business Week* 5 Oct. 1998: 124-125.

¹⁰ Michael T. Childress, Michal Smith-Mello, and Peter Schirmer, *Entrepreneurs and Small Business—Kentucky's Neglected Natural Resource* (Frankfort, KY: Kentucky Long-Term Policy Research Center, 1998) 62.

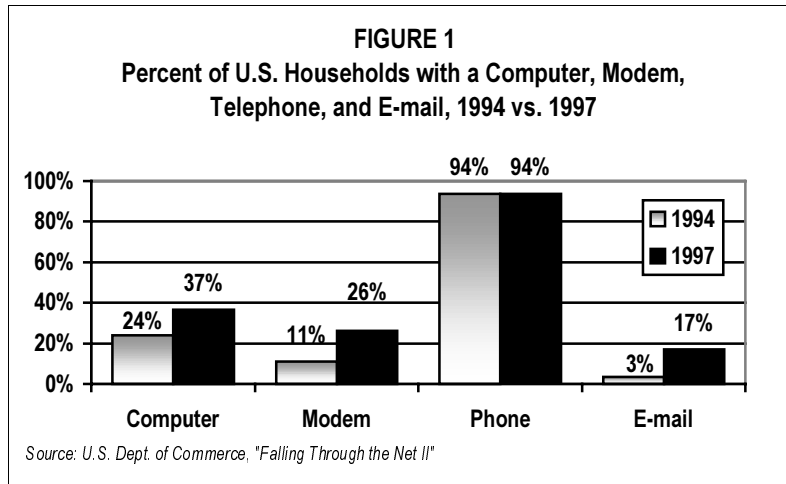
¹¹ Steven G. Allen, "Technology and the Wage Structure," NBER Working Paper #5534, 1996.

¹² A.B. Krueger, "How Computers Have Changed the Wage Structure: Evidence from Microdata, 1984-1989," *Quarterly Journal of Economics* Feb. 1993: 33-60.

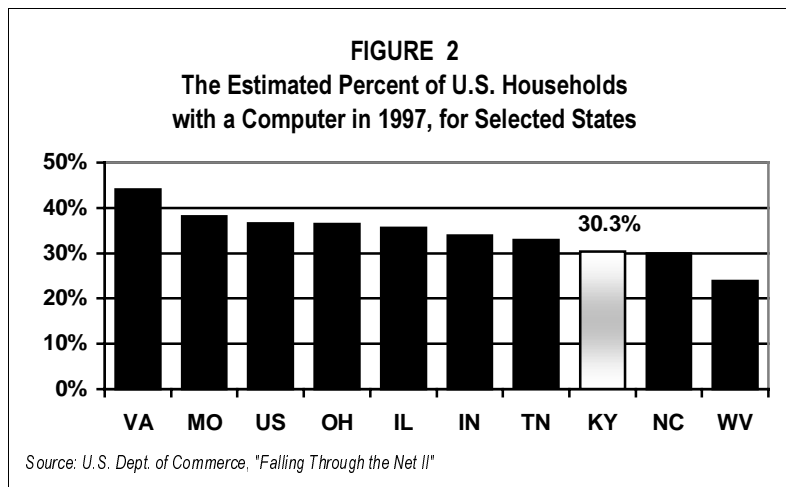
¹³ Anderson, et al.: 15.

¹⁴ Anderson, et al.: 16.

¹⁵ National Telecommunications & Information Administration (NTIA), *Falling Through The Net II: New Data on the Digital Divide* (U.S. Department of Commerce, Washington, DC, 1998): online, NTIA Web site (<http://www.ntia.doc.gov/ntiahome/net2/>), Internet, 16 Sept. 1998.

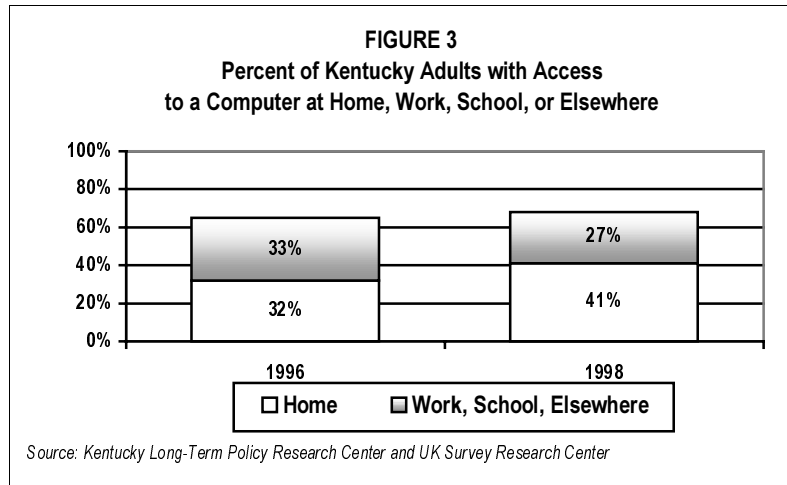


Kentucky is competitive with neighboring states with respect to the percentage of households with computers (Figure 2).¹⁶ And a recent statewide survey conducted for the Kentucky Long-Term Policy Research Center by the University of Kentucky Survey Research Center finds that, like most U.S. households, citizens of the Commonwealth are moving rapidly into the Information Age. While access to computers has only inched upward over the past two years, Internet exploration has soared.



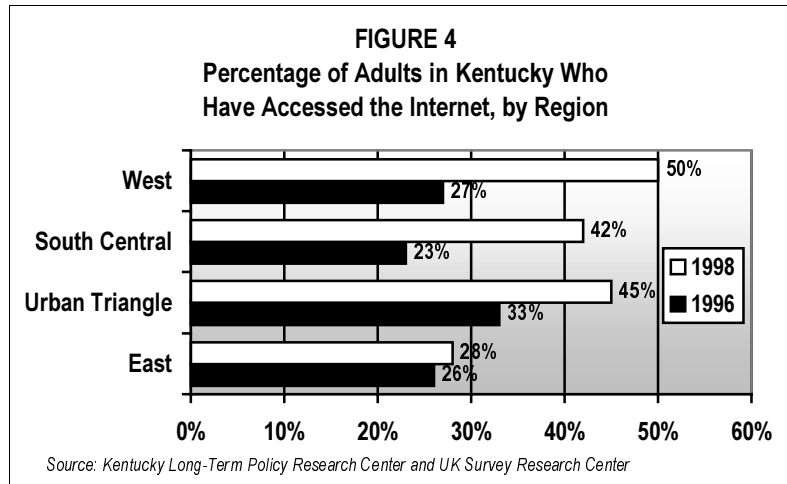
¹⁶ It should be noted that due to sampling error, there is not a statistically significant difference (at alpha level .10) between KY and the following states: NC, TN, and IN.

Two years ago, we found that 32 percent of surveyed adults in Kentucky said they had a personal computer in their homes, and another 33 percent did not have a computer at home but had access to one at work, at school, or elsewhere (Figure 3). Thus, a total of 65 percent of adults in Kentucky had access to a personal computer somewhere. In a survey completed in the spring of 1998, we found that the share of adults with a computer at home had risen from 32 percent to 41 percent. However, the share of adults with access to a computer anywhere had barely changed, from 65 percent to 68 percent, suggesting that more of those who had access to a computer outside the home two years ago now have their own computers.



Internet use in Kentucky has increased significantly over the past two years. In 1996, we found that about 26 percent of adults in Kentucky had used the Internet in past years. In 1998, rates of Internet access had increased to 41.8 percent.¹⁷ Two years ago, we found that younger people and more educated people were the most likely to have used the Internet. While that still remains true today, Internet use has soared at all age and education levels. Moreover, regional disparities in Internet use have virtually disappeared, with the exception of eastern Kentucky, which continues to lag behind the rest of the state (Figure 4). Low Internet use in eastern Kentucky may be explained by lower rates of home computer ownership. Computer users at home are more likely to have accessed the Internet than computer users at work, school, or elsewhere.

¹⁷ Estimates of Internet use for both 1996 and 1998 are age and education adjustments of the raw numbers. The raw rates of use were 25.6 percent in 1996 and 40.6 percent in 1998.



Technology That Meets Market Needs

WE HAVE FOCUSED OUR DISCUSSION TO THIS POINT ON THE RELEVANCE OF information technology to *individuals*, but it is equally important to Kentucky's businesses. In Kentucky, we have found that business use of information technology is mixed (Table 1). In a 1997 survey of newly created small businesses (20 or fewer employees), more than four out of five report using a computer, but a much lower percentage use e-mail, electronic data interchange (EDI), or electronic funds transfer (EFT). Forty percent have access to the Internet, and 10 percent have a site on the World Wide Web.¹⁸ Clearly, many businesses use their computers strictly for internal functions, such as database management, accounting, and word processing, rather than taking advantage of the computer's communications capabilities.

Use Computer	83.0%
Use E-mail	29.4%
Use EDI	12.3%
Use EFT	14.5%
Access Internet	41.1%
Have Web Site	10.4%
<small>Source: Survey of Small Business Owners, Kentucky Long-Term Policy Research Center, 1997</small>	

tions, such as database management, accounting, and word processing, rather than taking advantage of the computer's communications capabilities.

What keeps businesses from increasing their use of information technology? By far, businesses that *do not* use computers most often indicate that they don't

¹⁸ This number differs substantially from our estimate that no more than 1 percent of all Kentucky businesses have a Web site (Chapter 2, Figure 8). The reason is probably due to the fact that our small business survey included only a very small group of all Kentucky businesses, those with 20 or fewer employees that became subject to Unemployment Insurance in 1995.

know what kind of hardware or software to use. They cited this obstacle 50 percent more often than cost factors. Lack of knowledge was also the most frequently cited problem for businesses that *already* use computers. They say they have trouble keeping track of all the new products. A close second was the amount of time necessary to train employees to use new equipment. In other words, a lack of knowledge rather than a lack of money keeps businesses from using new information hardware and software. Business owners lack knowledge—they don't know what to buy—and employees lack knowledge—they don't know how to use new hardware and software.

Kentucky has taken a number of steps to connect the regions of the state through computer technology. The Kentucky Technology Service, for example, is designed to assist small and mid-sized businesses with “off-the-shelf and specialized technical, productivity, marketing, and managerial assistance” to become globally competitive.¹⁹ The program employs field engineers to work directly with firms to help them improve productivity. Moreover, Kentucky's Cabinet for Economic Development works to promote EDI throughout Kentucky's small businesses. EDI is a combination of computer hardware and software designed to link businesses through the same format for a variety of commercial exchanges, such as orders, invoices, shipping forms, and other documentation.

Implications for the Future

THESE DATA SUGGEST THAT ALTHOUGH INDIVIDUALS IN KENTUCKY ARE reaching and even exceeding national averages for computer access, significant numbers of Kentuckians still do not have access to computers and the Internet. Closing current gaps in access will enable more Kentuckians to become politically informed, socially integrated, and economically successful in the Information Age.

Information technology helps businesses communicate with suppliers, find market information, process orders, and do countless other things faster. In addition to accelerating the pace of business, information technology helps business people make more informed decisions. In turn, individual businesses and the overall economy are more efficient. Information technology is also enabling the rapid globalization of the economy. Producers and consumers from the most remote areas of the world are connected as never before, and information technology may have an even larger impact on business-to-business transactions. As electronic commerce becomes the norm, customers and suppliers will expect even the smallest firms to conduct routine business electronically. Consequently, it will be necessary for Kentucky entrepreneurs and businesses to embrace the technologies of the Information Age for their continued success and prosperity.

¹⁹ Kentucky Cabinet for Economic Development, “Kentucky Strategic Plan for Economic Development: Progress Report, July 1995,” Frankfort, Kentucky.

A SHIFTING ECONOMIC PARADIGM

Increasingly, work and learning are becoming the same thing.
— Don Tapscott, *The Digital Economy*

OUR ECONOMY IS CONSTANTLY CHANGING. SOMETIMES THE CHANGES ARE gradual; sometimes they surge at breakneck speed. In recent years, the pace of change has quickened, largely as a result of the technological advances discussed in the previous chapter. Consider, for example, the Internet. Internet-based commerce increased 1,000 percent from 1996 to 1997 and is expected to account for nearly 5 percent of global commerce by the early part of the next decade.²⁰ The number of people in Canada and the United States who make purchases on the Internet doubled from 10 million to 20 million between September 1997 and June 1998.²¹ Information technology and falling trade barriers are accelerating the processes of globalization, which affects every sector of the economy, every industry, business, and individual worker.

Global competition is a part of our daily economic lives and will require new responses from both the private and public sectors. While some traditional industries may wane, others requiring new corporate strategies and different kinds of workers will emerge. Meanwhile, itinerant companies on the run from high wages, environmental regulations, and taxes will make industrial recruitment less effective. Entrepreneurism and competitive homegrown businesses that respond to market needs will emerge as the new focus of economic development. Technology that reduces distances between buyers and sellers could become a tremendous asset to rural entrepreneurs.

Public policy may also change as the understanding of the relationship between the environment and the economy changes. Most importantly, the knowledge and skills of all Kentuckians will determine our economic prosperity. A population that values and appreciates the importance of learning produces not just better workers but also better university research, more responsible policy-making, and ultimately a higher standard of living.

Ready or Not, Global Competition Is Here

WHAT DO THE EMPLOYEES AT THE TOYOTA PLANT IN GEORGETOWN HAVE IN common with the workers of the OshKosh B'Gosh plant in Marrowbone? Very little. The former group can claim that their high-skill, high-wage jobs are

²⁰ Forrester Research, "Forrester Estimates Worldwide Internet Commerce Will Reach as High as \$3.2 Trillion in 2003," press release (1998): online, Forrester Research Web site (http://www.forrester.com/press/pressrel/_981105.htm), Internet, 11 Nov. 1998.

²¹ Nielsen Media Research, *Internet Demographic Survey* (1998): online, CommerceNet (<http://www.commerce.net/research/stats/highlights.html>), Internet, 11 Nov. 1998.

the result of globalization. The latter can argue that their former jobs moved off shore because of that same trade and investment liberalization.²² As is typical of a free marketplace, the competition generated by globalization produces winners and losers, but high skills are clearly an edge for firms and workers.

Globalization of the economy offers the hope of expanded prosperity, but this is by no means assured. Failure to adapt to the new business environment will not result in stagnation but loss. This is most unfortunate, for many people—politicians, front-line workers, teachers, farmers, even business managers and entrepreneurs—may be intimidated by the demands of the global marketplace, and understandably so. Change can occur at a breathtaking pace, and the issues are exceedingly complicated.

Yet despite the complexity of new forces affecting the economy, they cannot be ignored. Indeed, a government, a producer, even an

The real question is not whether to compete globally, but how to do it.

individual employee cannot simply decline to compete in the global marketplace. The very existence of open markets means that we are in competition with governments that have developed cogent, comprehensive, and forward-looking development plans; we compete with foreign producers of goods and services who use state-of-the-art manufacturing and information systems; and we compete with foreign workers who may have a better education or demand lower wages or both. The real question is not whether to compete globally, but how to do it.

Globalization will ultimately touch the lives of almost everyone in almost every community. However, some will feel a more immediate and direct impact from trade liberalization and rising international investment. The effect will be neither entirely positive nor negative. In short, as with any major change in the economy, there will be winners and losers in the era of expanding global markets and reduced barriers to trade. The same industry may include both winners and losers, depending on how different firms respond to new challenges. Likewise, communities may benefit, suffer, or see mixed results depending on the kinds of jobs they gain or lose.

We know at least three things about the effect of global competition on Kentucky: it is unlikely to abate; there will be positive effects for some; and there will be negative consequences for others. Obviously then, the goal is to take advantage of the opportunities it creates while minimizing the deleterious effects. Clearly, developing an educated and skilled citizenry is a necessary precondition for achieving this goal.

Traditional Economic Sectors in Flux

HISTORICALLY, KENTUCKY'S ECONOMY HAS DEPENDED HEAVILY ON THE CORE industries of mining, agriculture, and manufacturing, each of which is being transformed by a combination of forces, including, but not limited to, globaliza-

²² "OshKosh B'Gosh to Close Marrowbone Plant," *Clinton County News* 3 Aug. 1995: A5.

tion. The larger context of change has shaped the fortunes of these bedrock industries and, in turn, those of citizens and communities that depend upon them for their livelihood. While mining and agriculture remain vital to the economic well-being of the state, trends suggest that both industries face uncertain prospects.²³ Their contributions to the livelihoods of Kentuckians have already waned. Likewise, in spite of emerging strength, manufacturing employment is predicted to decline over the long term. As a consequence of these anticipated changes, the Commonwealth's future economic prosperity will hinge on its ability to negotiate successfully a shifting economic landscape, to anticipate and skillfully manage coming changes as well as those that are already well underway.

While the United States will continue to make increasingly sophisticated products and retain a commanding share of world production, technology and organizational change are expected to enable dramatic advancements in productivity that will eliminate the need for many manufacturing jobs. Clearly illustrating this shift, Internal Revenue Service data show that between 1990 and 1995 the number of U.S. manufacturing employees declined 3 percent while the number of establishments rose 3 percent.²⁴ While both manufacturing employees and firms grew by 10 percent in Kentucky during the same time period,²⁵ the state cannot remain immune to larger trends. The Bureau of Labor Statistics (BLS) predicts that between 1994 and the year 2005, 1.3 million manufacturing jobs will be lost while manufacturing's share of the national output will remain virtually unchanged. Manufacturing's overall share of jobs in the U.S. economy is predicted to decline from one in seven in 1994 to one in eight by the year 2005.²⁶

In spite of recent growth in Kentucky's manufacturing sector, long-range forecasts portend a decline in manufacturing jobs as well as farm and mining employment. As shown in Table 2, the Department for Employment Services in

TABLE 2
Projected Job Losses in Occupations
with Highest Losses, Kentucky, 1994-2005

Sewing Machine Operators, Garment	4,752
Farmers	4,695
Bank Tellers	1,775
Farm Workers, Excluding Ag. Services	1,748
Cleaners & Servants, Private Household	1,156
Typists, Including Word Processing	1,118
Bookkeeping, Accounting, Auditing Clerks	1,102
Mainframe Computer Operators, Ex. peripheral equip.	928
Source: Department for Employment Services, Kentucky Workforce Development Cabinet	

²³ By agriculture we are referring mainly to tobacco. For a recent discussion of the future of tobacco in Kentucky, see William M. Snell, "Kentucky's Tobacco Economy Important, Controversial and Uncertain," *Foresight*, Vol. 5, No. 3, 1998.

²⁴ Brad Edmondson, "State Business Trends, 1990-95," *American Demographics* July 1998: 57-63.

²⁵ Edmondson.

²⁶ Bureau of Labor Statistics (BLS), "New 1994-2005 Employment Projections" (news release), U.S. Department of Labor, Washington, D.C., 1 Dec. 1995.

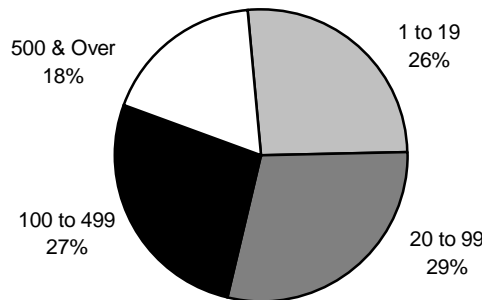
the Workforce Development Cabinet predicts that the occupational categories in which the largest loss of jobs will occur between the years 1994 and 2005 are sewing machine operators (4,752 jobs) and farmers (4,695 jobs).²⁷ The occupational category of farm workers, which excludes the growing field of agricultural services, is predicted to experience the fourth highest rate of decline, losing nearly 1,750 jobs by 2005. Similarly, mining occupations represent eight of the 25 fastest declining occupations in the state.²⁸ Other declining occupations, including those of bank tellers, typists, and bookkeepers, reflect the impact of advancing technology.

The Entrepreneurial Option

AS TRADITIONAL ECONOMIC SECTORS CONTINUE TO WANE, LOW-SKILL JOBS, Alike the thousands lost at Union Underwear and Fruit of the Loom plants in Kentucky, are predicted to continue their drift offshore. Without skills and a measure of entrepreneurial capacity, many of those who are displaced will face enormous difficulty negotiating the waves of economic change ahead, which will alter the industrial makeup as well as the size of firms. Consequently, a number of organizations around the state are working on initiatives that reflect a renewed commitment to the entrepreneurial option.²⁹

A highly diversified small business community has long been the backbone of the Kentucky economy, contributing the lion's share of jobs, regardless of the definition of small business (see Figure 5). While the immense contributions that large firms, such as Ashland Inc., Ford, General Electric, Humana and Toyota, have made to Kentucky's economic and social health are undeniable, these firms may

FIGURE 5
Distribution of Employees in Kentucky
by Size of Business Establishment, 1995



Source: County Business Patterns, 1995

Note: These data do not include government or farm workers.

²⁷ KY Dept. for Employment Services, 16.

²⁸ KY Dept. for Employment Services, 17.

²⁹ Some of these organizations include (but are not limited to) the Kentucky League of Cities, the Kentucky Science and Technology Council, the Mountain Association for Community Economic Development (MACED), the Kentucky Appalachian Commission, the Kentucky Chamber of Commerce, the Commodity Growers Cooperative Association, the Center for Entrepreneurship at the University of Kentucky, and the College of Business and Public Administration at the University of Louisville.

be reaching the limit of their ability to spawn significant employment growth. While Ford and Toyota have continued to expand in response to highly successful product lines, General Electric has announced that 1,500 jobs could be lost at its Louisville Appliance Park if it opts to move production lines to Mexico.³⁰

The creation and expansion of small enterprises, on the other hand, afford a virtual wellspring of potential growth. In fact, while the payrolls of Fortune 500 companies, which peaked at 16 million employees in 1979, dwindled to 12 million by 1995, the “invisible entrepreneurial economy” had created approximately 24 million new jobs.³¹ According to the U.S. Small Business Administration (SBA), the number of small businesses increased 49 percent between 1982 and 1995.³² In 1996 alone, SBA’s Office of Advocacy reports an estimated 842,000 new employer firms were launched,³³ edging ahead of a record 819,477 new employer firms in 1995.³⁴ Sole-proprietor firms brought the 1996 total to an estimated 1.3 million start-ups, according to SBA.³⁵ In 1995, an estimated 16 million sole proprietors were engaged in some type of entrepreneurial activity.³⁶ The Bureau of Labor Statistics estimates that between 1994 and the year 2005 those segments of the economy dominated by small firms will contribute 60 percent of new jobs.³⁷ As illustrated in Table 3, Cognetics, a Cambridge, Massachusetts, firm that specializes in tracking small firm employment, reports that job growth in every sector of the economy between 1991 and 1996 was largely attributable to firms with fewer than 100 employees.³⁸ And in Ken-

TABLE 3
U.S. Job Growth by Sector, Firm Size, 1991-1996
(percent of firms)

	All Firms	Firms w/1-99 Employees in 1991	Firms w/100 or More Employees in 1991
Manufacturing	0.4%	9.9%	-2.4%
Trade	2.2%	3.9%	0.2%
Finance, Insurance, Real Estate	-0.3%	3.0%	-2.2%
Services	3.4%	7.2%	0.8%
Other	0.8%	4.4%	3.2%

Source: Cognetics Inc.

³⁰ Associated Press, “Louisville May Lose 1,500 GE Jobs,” *Lexington Herald-Leader* 7 Feb. 1998: B2.

³¹ W.E. Wetzel, Jr., “Angels in America: Creating New Capital Markets for Emerging Ventures,” *Southern Growth* (Southern Growth Policies Board) Summer 1996: 21.

³² U.S. Small Business Administration (USSBA) Office of Advocacy, “Facts About Small Business—1996,” (1997): online, SBA Web site (<http://www.sbaonline.sba.gov/advo/stats/fact1.html>), Internet, 9 Sept. 1997.

³³ Brian Headd, U.S. Small Business Administration Office of Advocacy, personal interview, 28 Aug. 1997.

³⁴ USSBA, “Facts . . . 1996.”

³⁵ Friedman, E.M.

³⁶ USSBA, “Facts . . . 1996.”

³⁷ USSBA, “Facts . . . 1996.”

³⁸ Friedman, E.M.

tucky, small business (firms with under 500 employees) created all of the *net* new jobs from 1992 to 1996.³⁹ In fact, businesses with fewer than 20 employees were responsible for 52.6 percent of the small business job growth, representing 67,744 jobs.

Public policy must recognize the important role of entrepreneurship in the economy of the future. In his 1988 book, *The Rise of the Entrepreneurial State*, Peter K. Eisinger argued that state and local economic development policies were shifting away from a nearly exclusive focus on externally oriented “supply-side” policies designed to meet the demands of mobile industries. The success of these policies hinged on the decision of outside firms. Eisinger saw it being replaced by a “mastery of demand factors,”⁴⁰ the internal qualities that enable states or communities to compete in today’s marketplace. This new develop-from-within sensibility, Eisinger concluded, was emerging in response to diminishing returns from industrial recruitment, the strategies of which were quickly being appropriated by other states and locales; to declining federal aid; and, perhaps most importantly, to structural changes in the larger economy. Globalization of the economy was compelling an altogether different approach to development, one that would facilitate capital formation and wealth generation far more effectively than its predecessors.

Strategic industrial recruitment that seeks to correct market deficiencies can play a key role in the development of Kentucky’s economy, but it should not be perceived as the only approach. Indeed, facilitating the growth and development of small businesses and enabling the emergence of entrepreneurs must assume equal importance in our economic policy framework. The fount of economic energy they already bring to our economy is perhaps the most undervalued resource in the state.

Successful adaptation to the economic changes taking place will depend on many factors, but entrepreneurial energy is key. Innovation and entrepreneurship enable private enterprises to compete effectively, public agencies to serve wisely and efficiently, and nonprofit or Third Sector organizations to fill the gaps between the two. Entrepreneurial energy is manifested in skilled workers with the capabilities needed to negotiate a changing employment context; in innovative firms that discover new markets, create new products and services, and achieve high performance through state-of-the art technology, organization, and management; in communities that cultivate a high quality of life; in public-private partnerships that en-

To unleash entrepreneurship and innovation, the public sector must, as Drucker suggests, “view change as an opportunity, not a threat.”

³⁹ USSBA, “1997 Small Business Profile.”

⁴⁰ Peter K. Eisinger, *The Rise of the Entrepreneurial State* Madison: University of Wisconsin Press, 1988: 10.

able prudent public investment; and in a business climate that supports, enables, and advances entrepreneurship.

Distance and Place Redefined

ONE OF THE MOST IMPORTANT INNOVATIONS FOR CREATING NEW BUSINESSES and growing existing ones in the 1990s is the World Wide Web. The Web did not exist a decade ago, but furious competition among information technology companies has led to rapid improvements in the capabilities of the Web. Today, users can view live video, listen to live audio, exchange information and ideas in "real time," and make purchases on line relatively safely. One of the great strengths of the Web is its absence of borders. Customers can make purchases from a company without ever knowing where it is located; it could be two blocks down the street or halfway around the world.

The Web is simultaneously offering businesses tremendous opportunities as well as threatening challenges. Many on-line retailers do not charge sales tax and therefore have a decidedly important pricing advantage over Main Street retailers. The federal government is grappling with a way in which to tax on-line sales without nipping this nascent form of commerce in the bud.⁴¹ Meanwhile, state and local governments as well as Main Street retailers are attempting to collect revenue from and compete with the virtual marketplace.

Yet, because on-line shoppers as well as on-line revenues are on the rise, electronic commerce offers untold profits for those who hang a shingle in cyberspace, even from Main Street. One market research firm reports that the percentage of Web users who make purchases on line rose from 19 percent in 1995 to 27 percent in 1997.⁴² Another market research firm estimates that on-line transactions will total \$9 billion in 1997.⁴³ And Forrester Research estimates that on-line sales will skyrocket into the *billions* of dollars during the next few years (Figure 6). Many of the people who don't make purchases on line still use the Web to research products or services they want to buy. In fact, more than 20 million Americans have come to view the Internet as an indispensable part of their lives.⁴⁴ But these numbers pale in comparison to the level of business-to-business sales expected on the Net. Business-to-business transactions amounted to \$8 billion in 1997 but are expected to grow to over \$325 billion by 2002.⁴⁵ Such a powerful tool could be a tremendous help to Kentucky's businesses, particularly rural ones far from major markets.

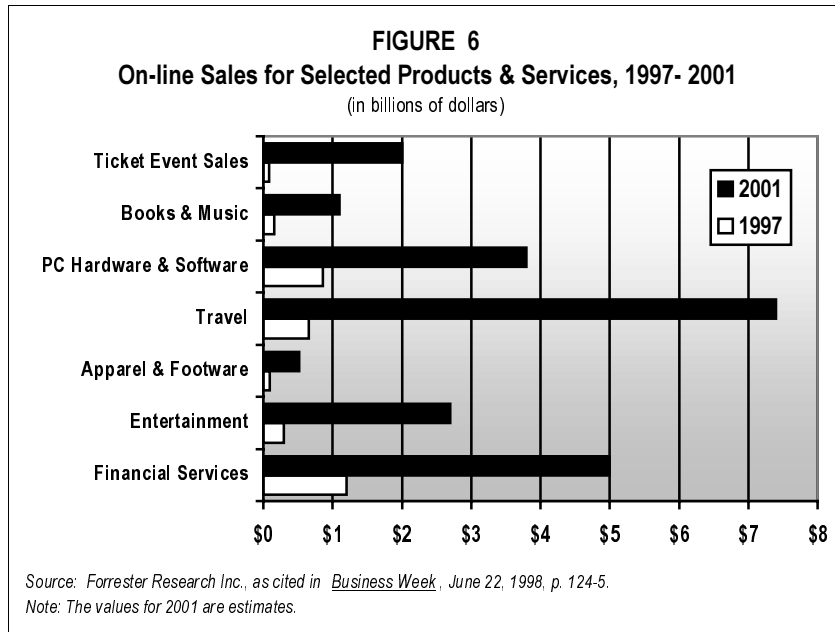
⁴¹ Howard Gleckman, "One Tax Policy For All," *Business Week* 22 June 1998.

⁴² "Beyond the Hype: Internet 'Indispensable' to Many, Disposable to Others" (no date): online (www.finsvp.com/0506.html), Internet, 2 Feb. 1998.

⁴³ Forrester Research.

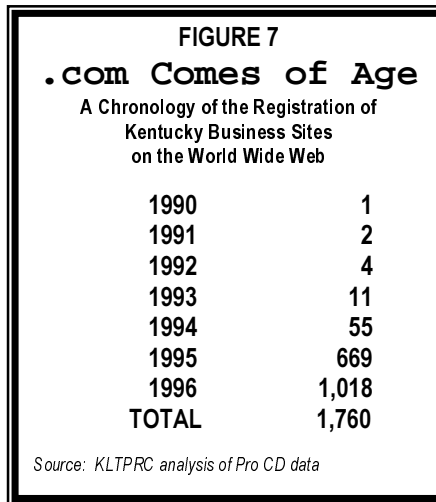
⁴⁴ "Beyond the Hype . . ."

⁴⁵ "The 'Click Here' Economy," *Business Week* 22 June 1998: 124.



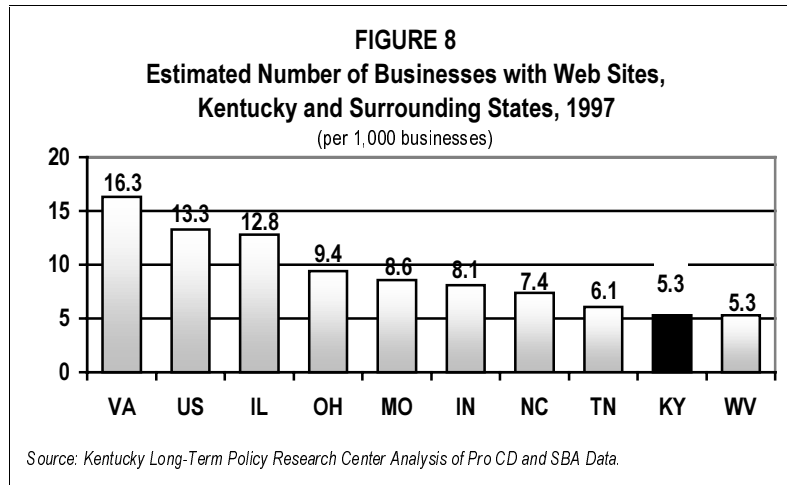
Although the numbers sound good, nothing is as compelling as success stories like that of Lexington-based Moore Diversified Products. The company invented a product that enables apartment managers to monitor utilities, security systems, and other electronic functions using a cable TV network. Sales of the RUM540 were slow until Moore advertised the product on its Web site. Now, the product is used in several states and in China, Ireland, Brazil, and the Philippines. The Chinese alone expect to buy \$3 million worth of RUM540s a year.⁴⁶

Unfortunately, it appears as if only a fraction of Kentucky businesses use the World Wide Web to sell their products. No directory of Web addresses is complete, so we can only estimate the number of Kentucky businesses with Web sites. During the spring and fall of 1997, we purchased a commercial listing of URLs and



⁴⁶ Jim Jordan, "Web Site Nets Big Break for Local Company." *Lexington Herald-Leader* 13 Dec. 1997: B1.

conducted our own exhaustive search of the World Wide Web. We found 1,366 Web sites for businesses based in the Commonwealth. Kentucky has about 80,000 firms with employees and approximately 113,000 self-employed persons.⁴⁷ At best, our estimates suggest that less than 1 percent of Kentucky businesses had a Web site at the time these data were collected although, as shown in the illustration of the chronology of Kentucky Web sites, the numbers are expanding rapidly. Our analysis of 1990-1996 data on registered Web sites collected by the Danvers, Massachusetts, firm, Pro CD Inc., found that while the number of sites has expanded dramatically in Kentucky, the number of businesses with a Web site is one of the lowest among surrounding states (see Figure 8).⁴⁸ Consequently, Kentucky businesses are moving more slowly than those in surrounding states to seize the opportunities and the competitive edge that a presence on the World Wide Web enables.



⁴⁷ The Department of Employment Services, Cabinet for Workforce Development, estimates Kentucky's self-employed population for 1996 at more than 129,000, but cautions against relying on these estimates. Here we use SBA estimates.

⁴⁸ The number of web sites was obtained from the PRO CD Internet Directory of over 450,000 web addresses (Pro CD Inc., Danvers, MA). These are web addresses that were registered between 1990 and 1996. We excluded inactive and noncommercial sites (e.g., *.net, *.org, *.edu, etc.) as part of our search criteria and found 1,009 Kentucky businesses with a web address. One should note however that an examination of the listings reveals duplicates for some businesses, but this duplication does not appear to be widespread. The total number of businesses is the sum of self-employed and businesses with employees in 1996. These data were obtained from the SBA state profiles (<http://www.sba.gov/ADVO/stats/profiles/>). According to SBA, Kentucky was home to 78,044 businesses with employees and approximately 113,000 self-employed persons in 1996, for a total of 191,044 businesses. Finally, for our purposes the relative differences between the states are more important than the absolute number of web sites per 1,000 businesses because the Web is changing and evolving so rapidly that any "snapshot" description is outdated immediately.

A Shifting Economic Paradigm and the Environment

CONVENTIONAL WISDOM LONG HELD THAT IF GOVERNMENTS TAKE A STRONG stand on issues of environmental protection, they risk inhibiting development and income growth. This assumption still surfaces as the basis for political action in spite of the strong environmental commitment a significant majority of citizens consistently express. It rests on the premise that strict environmental standards exact a cost borne by enterprises and, in turn, by their employees, their families, and their communities. But research increasingly refutes conventional wisdom.⁴⁹ Indeed, a clear correlation between strong regulatory environments and income growth has been found at the state level in a number of studies, findings which recommend a new paradigm for economic development that systematically supports and advances environmental quality. Such a paradigm underscores the importance of tracking our environmental progress and anticipating the stresses that could adversely affect environmental health and, in turn, our economic vitality in the years to come.

Environmental quality has steadily improved in Kentucky.⁵⁰ We continue to show signs of recovery and restoration of environmental health, largely due to regulatory requirements imposed on municipalities, businesses, and industries over the past two decades. These rules, along with billions of dollars in private and public sector investments, have resulted in cleaner air, water, and landscapes across the state. At the same time, our economy has continued to expand. But much more remains to be done to ensure a safe and healthy environment for future generations of Kentuckians, one that will enable, rather than inhibit, prosperity.

The inextricable link between Kentucky's economy and its environment is likely to tighten in the years to come. The economic development policies we adopt today will affect the quality of our environmental assets tomorrow. Forward-looking legislation and policy depend upon information about the effects of different mixes of the pursuit of economic development and the promotion of environmental protection in Kentucky. Because the choices before us involve tough decisions, policymakers must be provided with adequate information about projected outcomes of the choices they confront.

Indeed, as Kentucky's economy grows, measuring environmental quality will become increasingly important to our efforts to ensure its protection. The problem is not one of tradeoffs between the environment and the economy, but rather the development of policies and programs and private sector practices that will protect the environment in order to *permit* more economic development.

⁴⁹ See Stephen M. Meyer, "Environmentalism and Economic Prosperity: Testing the Environmental Impact Hypothesis," for The Project on Environmental Politics and Policy, Massachusetts Institute of Technology, 5 Oct. 1992, and Stephan J. Goetz, and Richard C. Ready, "Economic Growth Versus Environmental Quality, Is There a Trade-Off?" in *Economic Issues Facing Kentucky Agriculture—1993*, (Department of Agricultural Economics, University of Kentucky, Oct. 1993).

⁵⁰ Refer to Leslie Cole, "Kentucky's Environmental Trends: Progress and Problems," *Exploring the Frontier of the Future*, Eds. Michael T. Childress, Peter Schirmer, Billie M. Sebastian and Michal Smith-Mello (Frankfort: Kentucky Long-Term Policy Research Center, 1996) 221-232.

Inattention to environmental issues will almost certainly adversely affect our development options.

An Economy That Values Brains Over Brawn

THE CHANGES TAKING PLACE IN THE WORLD MARKETPLACE, IN TRADITIONAL industries, in economic development, and in environmental protection will profoundly affect the demands placed on workers in the next century. The reorganization and reorientation of the American workplace has involved movement from an inexact, often uncertain reliance on muscle and instinct to a dependence on extraordinary precision, made possible by sophisticated technology, developed and guided by human intellect.

Many workers who once listened intently for familiar sounds, smells or colors in production processes now rely on computerized schematics, controls, and, more importantly, knowledge of complex systems.

Technology's embrace of information has challenged millions of workers, who make products ranging from cars to computers, to extend their own

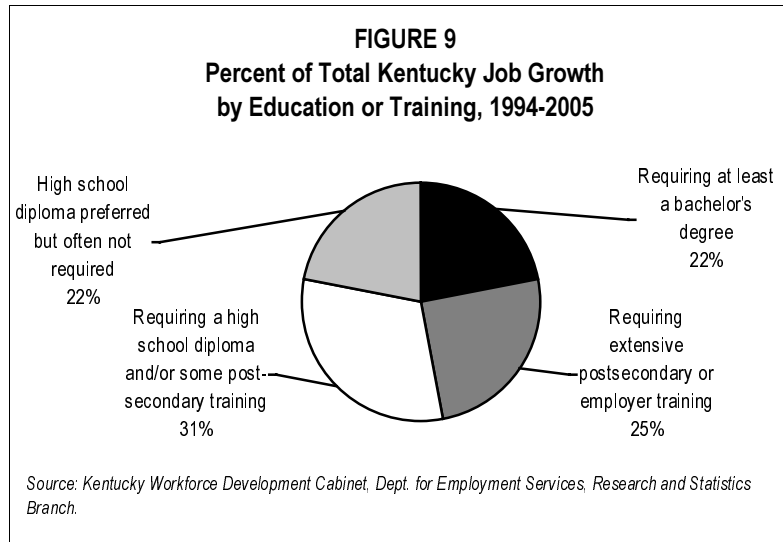
intellectual reach, to use and effectively manage a vast store of information and, in the process, become more active participants in the day-to-day business of the enterprises for which they work. As a consequence, it is increasingly important to prepare people for the world of work, where learning will be continuous, analysis and problem-solving integral, and critical thinking imperative. Reorienting workers, many of whom only completed high school, to this new paradigm is both essential and inevitable if Kentucky is to become and remain a competitive state.

Knowledge and intellect have always been the strength of human capital and part of the foundation for economic progress. And all levels of the workforce are rapidly coming to rely on them. Consequently, today's workplaces are becoming painfully unaccommodating. They challenge workers to reach ever rising levels of performance and productivity. To do so, employees must be able to function successfully both as individuals and team members and possess a solid foundation in the basics, ranging from math and verbal literacy to an overall ability to learn. They must be highly skilled, exceptionally knowledgeable, and willing and able to learn and relearn, as the workplace—and the jobs we hold—undergo nearly continuous transformation. Because rapid change will demand intellectual agility, it is important and even critical that skills be developed early and continually refined.

Kentucky's economy is taking on a new, and perhaps unfamiliar, shape as a result of the occupational dynamic that rewards intellect over brawn. For instance, the fastest growing occupation group in Kentucky to the year 2005 is

The diffusion of information technology is propelling a shift from what has been called a hardware society to a software society, one that places high value on intellect and creativity and little on brawn.

projected to be computer, mathematical and related occupations.⁵¹ Moreover, while employment will grow in occupations requiring all levels of education and training, nearly eight out of ten job openings through 2005 will be in occupations requiring at least a high school diploma or some postsecondary training (Figure 9).⁵²



The Necessity of Continuous Learning

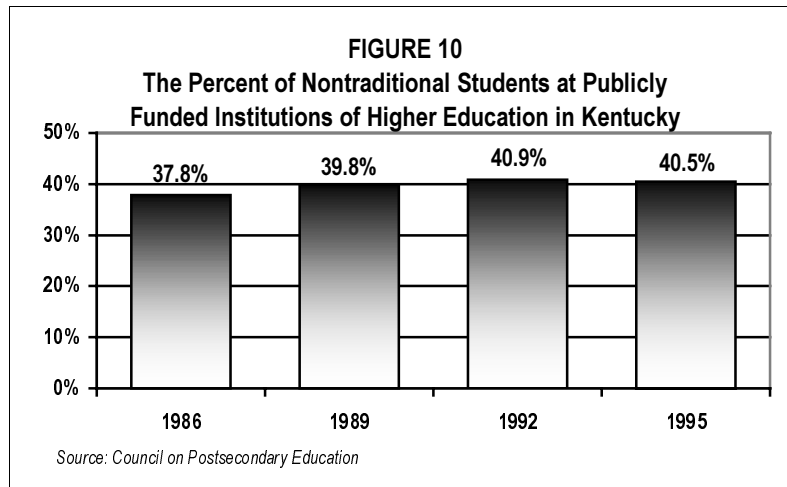
AS GLOBAL COMPETITION ESCALATES, LEARNING AND EARNING ARE BECOMING more closely aligned. “Knowledge workers,” social philosopher Peter F. Drucker observes, are becoming central to our economy and our society. They possess critical thinking skills and, importantly, an ability to continue expanding their knowledge and adapting to change. Their earnings power is increasing, and they may eventually possess rising political power and status.

This new reality knows no age boundaries. Workers are required to have a greater depth of knowledge as well as an expanding breadth of skills. The old paradigm of education in youth followed by gradual ascension through the ranks of an organization is a thing of the past. Whether in the boardroom or on the production line, workers are being challenged as never before. In turn, governments and institutions of learning are being challenged to provide more, to help workers of every age acquire a foundation of knowledge that will support continual expansion and growth.

⁵¹ Kentucky Department for Employment Services, *Kentucky Occupational Outlook to 2005* Frankfort: Kentucky Workforce Development Cabinet, 1997: 1.

⁵² KY Dept. for Employment Services, 7.

Kentuckians are responding to the challenges and demands of today's economy by embracing the notion of lifelong learning. The percentage of recent high school graduates attending college continues to rise,⁵³ and students age 25 and older comprise an increasingly larger proportion of the higher education population in Kentucky's public institutions (Figure 10). These nontraditional students now represent about 4 in 10 of postsecondary students at Kentucky's publicly funded schools, which is very close to the national average. Moreover, the number of nontraditional students who actually completed degrees rose by 50 percent between 1986 and 1995.



If Kentucky is to increase the wealth of its citizens in the 21st Century, we must strive to expand and enhance learning opportunities, increase participation, and instill a deeper appreciation of knowledge. While traditional public and private education institutions will likely remain the backbone of our learning system, they face the formidable challenge of accommodating the varied needs of adult learners.

Higher Skills Lead to Higher Wages

NEW CORPORATE PRACTICES AND STRATEGIES, TECHNOLOGICAL ADVANCES, and rising job skill requirements are making postsecondary training a virtual necessity for a high-paying job. The increase in educational requirements for workers is driving a wedge between the earnings of education "haves" and "have nots." While well-educated workers have always filled a significant share

⁵³ Greater percentages of Kentucky high school graduates are enrolling in higher education institutions than a few years ago. But Kentucky is still below the national average in enrollment levels. More troublesome is the fact that only about 38 percent of freshmen who enroll in Kentucky's four-year colleges each year finish their education within six years, compared with 57 percent nationally.

of the highest paying jobs, many with less education were also able to find high-paying jobs. But in the coming years, nearly all job openings (due to net job creation and replacement of current workers) in occupations paying high wages will require at least some training after high school, and more than half of all job openings in occupations paying high wages will require at least a college degree.

TABLE 4 Projected Total Job Openings* in the U.S., by Education Level and Median Wage, 1994-2005 (Numbers in thousands)				
Necessary Training	Total	Median Wage of Job Openings		
		Very High or High	Average	Low or Very Low
No special training	15,674	1%	8%	91%
Vocational, formal employer training or other postsecondary	14,247	36%	16%	48%
Bachelor's degree or more	7,603	80%	19%	1%
<small>* Total job openings represent the sum of employment increases and net replacements. Source: LTPRC computations of Bureau of Labor Statistics employment projections and training needs for each occupation.</small>				

As Table 4 shows, of the 15 million job openings that will be available over the next 10 years to workers with only a high school education or less, 91 percent will pay low or very low wages. Workers who participate in vocational training, formal training programs at work, or other postsecondary education will find that almost half of their employment opportunities are for jobs that pay low or very low wages. However, this category of workers includes people with very different training backgrounds. As these workers with some postsecondary training accumulate experience, they may move into higher-paying occupations, even without obtaining a bachelor's degree. Finally, four out of five job openings requiring at least a bachelor's degree pay high or very high wages.

However, Table 4 *does not* indicate that four out of five college graduates will have a high-paying job. In 1990, the Bureau of Labor Statistics (BLS) projected that total demand (including job growth, job upgrading, and replacements) for college graduates will grow by 914,000 jobs a year through 2005. BLS also projected supply to grow by 1,320,000 graduates a year. The result is that as many as 30 percent of college graduates in the job market could be in jobs not traditionally requiring a four-year degree, or they could be unemployed. During the previous decade, about 20 percent of college graduates found themselves "underutilized" or unemployed.⁵⁴

Too few graduates in some fields and too many in others may partly explain why so many college graduates find themselves in jobs not requiring a four-year degree, but Daniel E. Heckler, an economist with BLS, finds that few fields are

⁵⁴ K.J. Shelley, "More College Graduates May Be Chasing Fewer Jobs," *Occupational Outlook Quarterly* Summer 1992: 5-11.

actually facing shortages.⁵⁵ Yet Hecker also reports that the wage premium paid to workers with a four-year degree is higher no matter what the occupation (Table 5). The median weekly earnings for handlers, equipment cleaners, helpers, and laborers, for example, were \$58 higher in 1990 for workers with four years of college than for workers with only four years of high school. A mechanic with four or more years of college saw his or her earnings grow 42 percent between 1983 and 1990; with just four years of high school, earnings only grew 21 percent.⁵⁶

TABLE 5
Median Weekly Earnings of Full-Time Wage and Salary Workers
by Occupation and Years of School, 1990

	4 years of high school	1 to 3 years of college	4 years of college
Total	\$354	\$431	\$569
Executive, administrative, and managerial	\$459	\$538	\$675
Professional specialty	\$441	\$549	\$595
Technicians	\$412	\$481	\$562
Sales	\$302	\$579	\$580
Administrative support, including clerical	\$326	\$361	\$401
Service, except private household	\$260	\$326	\$401
Precision production, craft, and repair	\$465	\$543	\$601
Transportation and material moving	\$411	\$455	\$500
Handlers, cleaners, helpers, and laborers	\$302	\$329	\$360

Source: Current Population Survey, cited by Hecker

College is not the only route to high wages. Over the next decade, about one third of the expected 14 million job openings for occupations requiring less than a college degree but more than high school will pay high or very high wages. The Bureau of Labor Statistics reports that in 1993 nearly 40 percent of workers with less than a bachelor's degree earned more than \$500 per week, and nearly 20 percent earned \$700 per week or more.⁵⁷ Yet despite the lack of bachelor's degrees, many of these workers have considerable training and experience; some training and certification programs take up to two years. Not everyone must—or even should—attend college, but some sort of postsecondary training will almost certainly be necessary if a person is to have a realistic chance at getting a “good job” in the future.

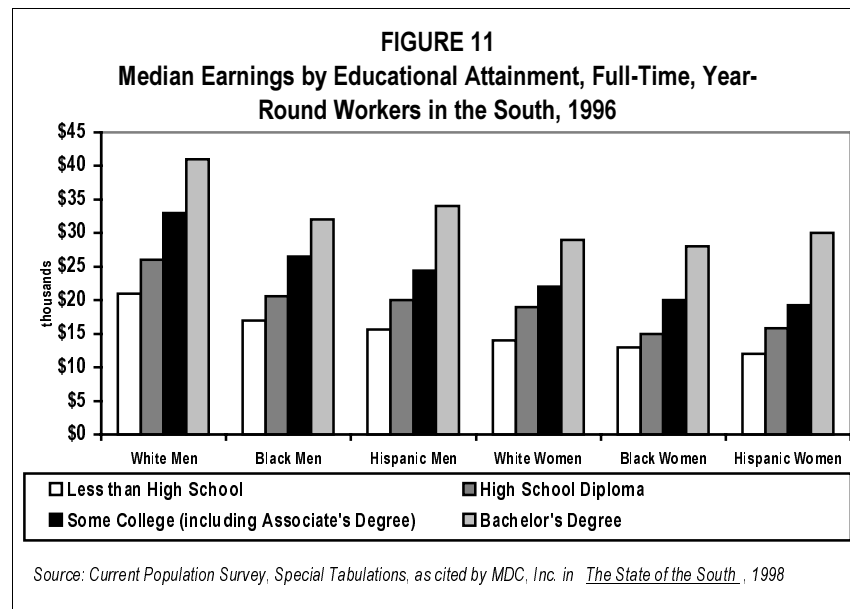
Indeed, while the income differential with respect to educational attainment was substantial in the mid-1990s (Figure 11), it promises to become even larger in the future. Recent research focusing on the relationship between education

⁵⁵ D. Hecker, “College Graduates: Do We Have Too Many or Too Few?” *Occupational Outlook Quarterly* Summer 1992: 13-23.

⁵⁶ Hecker.

⁵⁷ T. Cosca, “High Earning Workers Who Don’t Have A Bachelor’s Degree,” *Occupational Outlook Quarterly* Winter 1994: 38-46.

and earnings in Kentucky found similarly large earnings differences across education levels, and the differences have been widening over time.⁵⁸



The call for a strategy to develop a workforce that is well educated, highly skilled, and broadly trained is one of the few areas in which experts around the nation are in complete agreement. The need for human capital to facilitate economic development is universally recognized. It is one of the most significant challenges facing Kentucky, as the arrival of global competition is no longer a prediction but part of working and doing business in today's economy.

Implications for the Future

TO SHAPE THE BEST POSSIBLE FUTURE FOR KENTUCKIANS, NUMEROUS UNTAPPED resources, including the thousands of workers who need training and education to participate fully in the economic future of the state, must be cultivated and nurtured. Possible points of leverage for the state's future lie in familiar but not yet fully realized arenas. Kentucky's manufacturing base, for example, has been strengthened in recent years by the expanding presence of the automotive industry, which has historically spawned satellite industries, new products and, importantly, high-wage, high-skill jobs. Coupled with an ex-

⁵⁸ Mark C. Berger, "Education and Earnings in Kentucky, 1964-1996," *1998 Kentucky Annual Economic Report* Lexington, KY: Center for Business and Economic Research, University of Kentucky, 1998: 19-24.

panded commitment to research and development, this foundation could enable Kentucky to weather predicted declines in manufacturing employment.

Entrepreneurism and small business development offer significant potential for future economic development. Kentuckians demonstrate high levels of actual and latent entrepreneurial energy. At the same time, Kentucky's vast natural resources, including coal, oil, natural gas, limestone, and timber, as well as alternative crops, offer immense opportunity for innovation and new product development. Such crops may help illuminate paths of opportunity for Kentucky farmers, who face the almost certain decline of their biggest crop—tobacco. Development of the travel industry also offers the opportunity to bolster the economies of underdeveloped regions while building a broader appreciation of Kentucky's beauty, culture, and heritage.

Finally, the future prosperity of Kentuckians will depend to a great extent on our ability to accommodate, master, and harness rapid-fire changes in technology. These changes will influence virtually every workplace and every worker. A solid foundation of scientific and technological skill and reliable, fast-track mechanisms for identifying and helping meet the needs of business, industry, and workers could enable greater prosperity. Without Information Age prowess, Kentucky's future will likely yield more of the same persistent poverty that has for too long defined who we are. With it, we can determine who we want to become, and we can capture more of the prosperity that has eluded so many Kentuckians for so long.

A DEEPENING DIVIDE

United we stand, divided we fall
— Kentucky State Motto

AS OF THE MID-1990S, THE DISTANCE BETWEEN THOSE AT THE TOP AND THOSE at the bottom of the nation's economic ladder was wider than at any time since 1947, according to the Census Bureau. And the climb out of poverty had become far more improbable. In 1995, researchers concluded that the U.S. income divide was the worst among the world's industrialized nations, including those with long-established class systems.⁵⁹ Regarded by some economists as a social and economic issue without rival on our horizon, income inequality will likely pursue U.S. policymakers into the 21st Century. Some economists conclude that the widening gap between rich and poor reaches well beyond low-income households, fostering undereducation, skill shortages, and diminished productivity and competitiveness that affect everyone.⁶⁰ Still others point to the potential for social unrest that lies in the emergence of a class system that affords little economic and social mobility and reserves the lion's share of benefits of economic growth for the wealthy. In spite of a buoyant economy, the nation's social health is rated as poor.⁶¹ This deepening divide, which is more pronounced here than in most of the nation, blocks social and economic prosperity.

Income Inequality

DURING THE 1970S, PERSONAL INCOME GREW FOR AMERICANS AT ALL INCOME levels (but faster for those at the high end). However, *real* income fell for people in the bottom 60 percent of the income distribution between 1979 and 1993. Gary Burtless of the Brookings Institution writes, "In 1969, income at the 95th percentile of adjusted personal income was a little less than 12 times income at the 5th percentile. By 1993, income at the 95th percentile was more than 25 times income at the 5th percentile."⁶²

The Center on Budget and Policy Priorities analyzed Census Bureau data to determine how incomes have changed for families with children from the late 1970s (1978-80) to the mid-1990s (1994-96). The analysis shows that during this time period in the United States, real incomes of the richest one fifth of

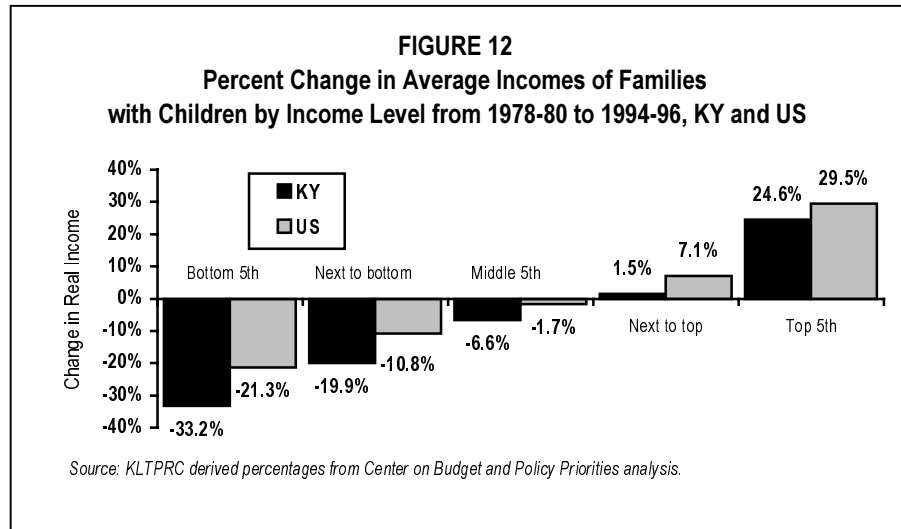
⁵⁹ Keith Bradsher, "Rich-poor Gap in U.S. Worst Among Key Nations," *Lexington Herald-Leader* 17 Apr. 1995: A1.

⁶⁰ Aaron Bernstein, "Inequality: How the Gap Between Rich and Poor Hurts the Economy," *Business Week* 15 Aug. 1994: 78-83.

⁶¹ Elia Kacapyr, "What's Wrong with This Picture?" *American Demographics* Sept. 1998: 18-19.

⁶² Gary Burtless, "Worsening American Income Inequality: Is World Trade to Blame?" *The Brookings Review* Spring 1996: 28.

families increased by 30 percent while real incomes declined by 21 percent for the poorest fifth (see Figure 12).⁶³



While income inequality is a national phenomenon, the gap between the rich and the poor is slightly worse in the South than in the nation as a whole, according to a 1998 report from MDC.⁶⁴ Moreover, there are four states in the South where the income gap is particularly large—Louisiana, Mississippi, Texas and *Kentucky*. The size of the income gap as well as the rate at which it has widened is relatively large in Kentucky. The Center on Budget and Policy Priorities found that “the states where the gap between the highest income and lowest income families with children grew the most from the late 1970s to the mid-1990s are, in order: Connecticut, New York, West Virginia, Arizona, and *Kentucky*.”⁶⁵

The news is not entirely bad, however, because people are not locked into an income percentile for their entire lives. A 1992 study by the U.S. Department of Treasury, based on 14,351 income tax returns filed from 1979 through 1988, suggests there is considerable mobility between income levels. Of the people in the lowest income quintile in 1979, 21 percent rose to the second quintile, 25 percent to the middle, 25 percent to the second-highest, and 15 percent moved up to the top quintile. In other words, 86 percent of those in the bottom income quintile in 1979 had managed to raise their incomes by enough to move to a higher quintile by 1988.⁶⁶ Still, the gap between the highest and lowest quintiles

⁶³ Center on Budget and Policy Priorities (CBPP), “Pulling Apart: A State-By-State Analysis of Income Trends” (Press Release) 16 Dec. 1997.

⁶⁴ MDC Inc., *The State of the South* (Chapel Hill: Author, 1998). It should be noted that while this report was published in 1998, the data cited on income distribution is from 1989.

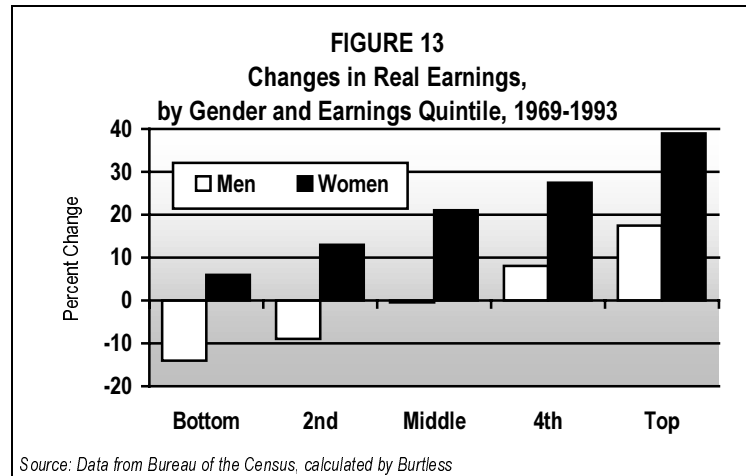
⁶⁵ CBPP.

⁶⁶ W. M. Cox and R. Alm, “The good old days are now,” *Reason* Dec. 1995: 27; online (www.reasonmag.com/9512/COXfeat.html), Internet, 11 Nov. 1998.

is much larger today, meaning that people in the lower quintiles have more ground to make up than in 1979.

Wage Inequality

THE TREND TOWARD WAGE DISPARITY IS WELL DOCUMENTED AND HAS CONTRIBUTED to a growing disparity in personal income. Kentucky's wage inequity is, by some accounts, the fifth largest in the country.⁶⁷ Between 1969 and 1993, U.S. wages for men in the bottom 40 percent of the earnings distribution fell, and for men in the top 40 percent of the earnings distribution wages rose (Figure 13).⁶⁸ The trend was more pronounced in the 1980s and 1990s. Women at all levels of the earnings distribution saw their wages rise between 1969 and 1993, although all of the wage growth for women at the bottom occurred between 1969 and 1979. After 1979, their annual earnings fell.⁶⁹



Technology, Trade, and Immigration: Accounting for Inequality

ALTHOUGH NUMEROUS EXPLANATIONS HAVE BEEN OFFERED AS TO WHY WAGE inequality has increased, two competing theories remain at the center of the debate, one based on technology, the other on international trade and immigration. The former argues that as automation and computerization have grown in most industries, the demand for skilled workers has risen. Because skilled workers are relatively scarce, employers have been forced to bid for these workers by raising their relative earnings. According to the latter theory, companies employing low-skill labor in the United States have had either to depress wages or eliminate jobs to remain competitive, and immigration has enlarged the pool of

⁶⁷ Jamie Butters, "Kentucky's wage gap now 5th-largest in nation," *Lexington Herald-Leader* 7 Sept. 1998.

⁶⁸ Burtless.

⁶⁹ Burtless

available low-skill labor, which would also reduce the relative wages of low-skill workers.

Although trade and technology effects are not mutually exclusive, the preponderance of opinion seems to be that technology is a bigger factor than international trade and immigration in skewing wages. Gary Burtless of the Brookings Institution notes that between 1969 and 1993, U.S. industries most affected by trade eliminated low-skill, low-wage workers *no faster than* the industries least affected by trade. This, he writes, is “a pattern that is extremely hard to square with the claim that foreign trade is the main factor behind soaring wage inequality.”⁷⁰ In addition, imports from developing countries represent a small share of gross domestic product, and this share fell in the 1980s, even while the wage gap rose.⁷¹ Two economists at the Federal Reserve Bank of New York concluded that technological progress was the most important influence on wage inequality, while international trade made a more modest contribution to the problem.⁷² Finally, Stephen Golub, an economist at Swarthmore College, calculates that unit labor costs (the labor cost of producing a single item) in many low-wage countries are quite close to, or in some cases higher than, unit labor costs in the United States because of much lower worker productivity.⁷³

MIT economist Olivier Blanchard describes the high-skill labor market as a race between an increase in relative supply and relative demand. As more people attend college or receive other postsecondary training, the supply of high-skill workers relative to low-skill workers rises, and the wage premium paid to high-skill workers decreases because employers don’t have to do as much “bidding” for labor. On the other hand, as technology spreads throughout the economy, the demand for high-skill workers relative to low-skill workers rises and employers must compete with each other to retain high-skill labor. Blanchard writes, “In the 1970s, relative supply won; in the 1980s, relative demand won. But in both decades, the race has been fast on both sides.”⁷⁴ Technology growth affects the relative demand for high-skill workers. International trade and immigration affect the relative supply. (As a truly global labor market emerges, the pool of low-skill labor increases, thus reducing the *relative* supply of high-skill labor.) In either case, the trends could lead to a larger wage gap between high- and low-skill workers. Blanchard also warns that employment rates for low-skill workers could decrease significantly in the future if current trends continue.

⁷⁰ Burtless, 30.

⁷¹ R. Solow, “Widening Wage Inequality,” in *The Urban Institute Policy and Research Report* (Washington, DC: Author, 1994).

⁷² D.A. Brauer and S. Hickok, “Explaining the Growing Inequality in Wages Across Skill Levels,” *Federal Reserve Bank of New York Economic Policy Review* Jan. 1995: 61-75.

⁷³ G. Koretz, “The Equalizer: Productivity,” *Business Week* Sept. 1995: 26.

⁷⁴ O. Blanchard, “Macroeconomic Implications of Shifts in the Relative Demand for Skills,” *Federal Reserve Bank of New York Economic Policy Review* Jan. 1995: 48.

The Emerging Digital Divide

ACCESS TO AND USE OF INFORMATION TECHNOLOGY WILL PLAY AN IMPORTANT role in developing and enhancing the skills of workers. Yet, despite upward trends in information technology use for the overall population, a schism has developed between the information “haves” and “have nots.” According to the National Telecommunications & Information Administration (NTIA):

. . . the "digital divide" between certain groups of Americans has increased between 1994 and 1997 so that there is now an even greater disparity in penetration levels among some groups. There is a widening gap, for example, between those at upper and lower income levels. Additionally, even though all racial groups now own more computers than they did in 1994, Blacks and Hispanics now lag even further behind Whites in their levels of PC-ownership and on-line access.⁷⁵

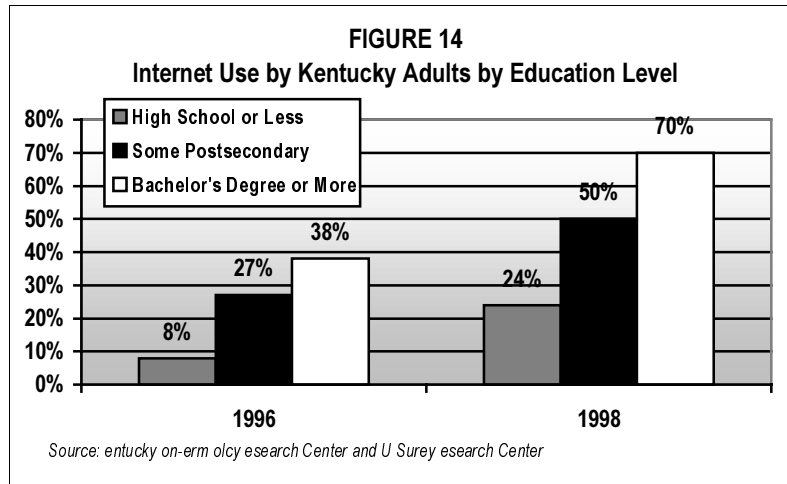
A digital divide also exists in Kentucky. The people who use technology tend to be younger, better educated (Figure 14), wealthier, and urban.⁷⁶ Gender and employment status affect the use of certain technologies, especially computers and the Internet, but not others.

It is important to note that numbers and percentages can tell vastly different stories. For example, 55 percent of Kentucky's college graduates and 22 percent of Kentucky's high school graduates use a computer at home, but Kentucky has only 486,000 college graduates, compared with 1 million people who ended their pursuit of formal education after high school.⁷⁷ Add to this the 707,000 adults who do not have a high school diploma (10 percent of whom use a home computer), and fewer home computer users in Kentucky have a college degree than have a high school degree or less (266,000 versus 285,000). Therefore, when we explain which demographic groups are most likely to use technology, consider not only the rate of technology use within a group but also the size of the group.

⁷⁵ National Telecommunications & Information Administration, *Falling Through the Net II: New Data on the Digital Divide*.

⁷⁶ Peter Schirmer and Stephan J. Goetz, *The Circuits Come to Town: An Analysis of Technology Use and Electronic Delivery of Government Services in Kentucky* (Frankfort, KY: Kentucky Long-Term Policy Research Center, 1997) 4.

⁷⁷ U.S. Bureau of the Census, Current Population Survey, *Educational Attainment in the United States*, U.S. Department of Commerce, Washington, DC, March 1996 update: 77.



These findings make a subtle yet powerful point: the people who are most vulnerable in today's economy—the least educated—are far less inclined to own PCs or access the Internet, which would enable them to acquire some of the skills demanded in high-paying jobs. With job loss due to downsizing reaching into the millions in recent years, with contingency employment expanding, and with the demand for high-skill workers rising rapidly, experts emphasize the importance of lifelong learning and continuous skill upgrading. Many workers will change jobs in the coming years, either by choice or by necessity. Those people with low incomes may never be able to move up the income ladder, and those fortunate people with relatively little education but high incomes may not be able to find comparable work should they lose their jobs.

The education gap in technology use raises another point as well: If fewer educated people are naturally less inclined to own a PC or to use the Internet, even if they could afford to do so, who will use the PCs once they are available in public facilities? It is possible that only a relatively small group of people—those with low incomes but a lot of education—will benefit substantially. If the benefits of public PCs are to be more broadly distributed, special training courses may be necessary to demonstrate to people what computers can do for them.

The age distribution of computer ownership, the income barrier, and the education gap also have implications for community and regional development. Exponents of the Information Age rightly claim that people can at any time and from any place tap business and personal resources, which can improve quality of life, raise incomes, and do all sorts of other wonderful things. But people need computers to make this happen. While people can now jump onto the Internet and contact someone in Paris, Kentucky, or Paris, France, the barriers to, and proclivities for, computer ownership and use may continue to deny underdeveloped regions access to the resources they need for economic develop-

ment. Thus we could be in danger of seeing the rich areas get richer and the poor ones get poorer.

Obstacles to the Escape Route—Postsecondary Education

IN THE PAST, MANY AMERICANS WERE ABLE TO CARVE FINANCIAL SUCCESS OUT of an economy that rewarded hard work and tenacity, but in today's economy those qualities may not be sufficient. Increasingly, its richest rewards are reserved for those whose brains and ingenuity set them apart. Today, admission to the middle class is virtually conditional on educational status. Knowledge and academic credentials count as never before. Without some postsecondary education, a lifetime of low earnings and even poverty is likely to follow. As a consequence of the clear path from postsecondary education to higher earnings, an improving educational status is central to the goals of reducing poverty and raising personal income. Tragically, however, those least likely to choose this proven escape route from poverty are from poor, low-income households.

Indeed, postsecondary education has become a predominantly middle-class pursuit in the United States, one that government generously supports through student financial aid, tuition grants, direct subsidies, and tax breaks. In disproportionately poor Kentucky, the General Assembly recently broke from the long-standing tradition of tying financial assistance to family need and approved an academic scholarship program that will disregard family income. Today, according to the University of Pennsylvania Institute for Research on Higher Education (IRHE), "Public and private expenditures for higher education on behalf of students at the higher end of the socioeconomic spectrum are nearly twice those made on behalf of students at the lower end."⁷⁸ In effect, public investment is perpetuating the economic status quo, providing opportunity for those who already have it without systematically addressing the significant roadblocks to opportunity that poor, low-income people face.

The findings of a fall 1995 national survey of 240,000 entering freshmen, "The American Freshman: National Norms for Fall 1995," conducted by the American Council on Education and the University of California, illustrate the relationship of family income to college entrance (Table 6). Though nearly one third (32.3 percent) of U.S. families had incomes at or below \$25,000 in 1992, the survey found that only a fifth (20.2 percent) of 1995 entering freshmen estimated their families' incomes in this range. In contrast, nearly a quarter (24.1 percent) of entering freshman reported annual parental incomes over \$75,000 though only 13.9 percent of U.S. families fell within this income category.

⁷⁸ Robert Zemsky (editor), "A Very Public Agenda," *Policy Perspectives*, Institute for Research on Higher Education, University of Pennsylvania, Sept. 1998: 4.

TABLE 6 Distribution of 1995 Entering Freshmen by Estimated Annual Parental Income and 1992 U.S. Families by Annual Income		
	Estimated Parental Income of Entering Freshman, 1995	Distribution of U.S. Families by Income, 1992
Below \$25,000	20.2%	32.3%
\$25,000-49,999	31.1%	34.2%
\$50,000-74,999	24.5%	19.6%
\$75,000 and over	24.1%	13.9%
Source: American Council on Education, University of California, and U.S. Bureau of the Census.		

In a 1998 analysis of data from the U.S. Department of Education's National Education Longitudinal Study of 1988, which followed the postsecondary paths of 13,000 high school sophomores, researchers at Mathtech Inc. in Princeton found that postsecondary attendance increased in relation to family income. While nearly 44 percent of students from the lowest of three income groups attended postsecondary education, 69 percent from the middle group and 86 percent from the high-income group did so.⁷⁹ Low-income students were also far less likely to attend four-year schools and far less likely to attend private schools, even when they were among top test scorers.⁸⁰

Another U.S. Department of Education longitudinal study of 14,000 high school students who were sophomores in 1980 found that educational outcomes are also clearly related to socioeconomic status. As shown in Table 7, the lower a student's socioeconomic status based upon parental education, family income,

TABLE 7 Highest Level of Educational Attainment of 1980 High-School Sophomores by 1992, by Socioeconomic Status			
	Low	Middle	High
No High-School Diploma	9.0%	3.9%	1.4%
High-School Diploma	64.6%	53.8%	32.7%
Certificate	12.3%	11.5%	7.0%
Associate Degree	6.9%	9.1%	7.6%
Bachelor's Degree	6.4%	19.0%	41.2%
Master's Degree	0.7%	2.0%	6.9%
Professional Degree	0.1%	0.5%	2.7%
Doctoral Degree	0.0%	0.1%	0.5%
Source: U.S. Department of Education			

father's occupation and other household characteristics in 1980, the lower his or her educational attainment was 12 years later. Indeed, fully 85.9 percent of study group members from low socioeconomic backgrounds had no more than a high school diploma by 1992, compared with 69.2

percent from middle and 41.1 percent from high socioeconomic backgrounds.⁸¹

Students from poor, uneducated families are discouraged both from pursuing postsecondary education and persisting as postsecondary students for a variety

⁷⁹ Karen Akerhielm, Jacqueline Berger, Marianne Hooker and Donald Wise, *Factors Related to College Enrollment* (Washington, DC: U.S. Department of Education, 1998) ES-2.

⁸⁰ Akerhielm et al., ES-2.

⁸¹ U.S. Department of Education, "High School and Beyond" as cited by *The Chronicle of Higher Education Almanac* 2 Sept. 1996.

of reasons, not the least of which is the inadequate academic foundation they so often receive. Were that foundation equal, outcomes would likely be far different. As IRHE notes, “Research has shown that when at-risk students attain the threshold mathematics and language skills, their chances of educational success are virtually the same as those of all other students.”⁸² But mastery of the “gateway competencies”⁸³ is also directly linked to socioeconomic status. The Mathtech researchers found that students in high-income families are more likely than those in low-income families to take the math and science courses associated with preparing for postsecondary attendance.⁸⁴

Poor and low-income students also face a range of financial obstacles when deciding whether to seek postsecondary education. The soaring cost of tuition is among the most formidable. Nationally, tuition at public, four-year colleges and universities increased 234 percent between 1980 and 1995 while household income rose just 82 percent, and the cost of consumer goods increased 74 percent.⁸⁵ Over the same period in Kentucky, tuition rose 235 percent at the Universities of Kentucky and Louisville, 193 percent at the state’s regional universities, and 146 percent at the community colleges. While the escalating cost of higher education is often justified by the significant lifetime returns it yields, the immediate effect of its cost is likely to be far more daunting to those who are poor.

Because the cost of higher education usually entails investment beyond tuition and books, namely housing, food, utilities and clothing, the total cost of higher education can appear untenable to many poor families. Again, Mathtech researchers found that students whose parents said they could not see a way of financing college were less likely to attend postsecondary education.⁸⁶ Not surprisingly, those parents in the lowest income categories were far more likely to express doubts about the financial feasibility of their child attending college.

Even among students with high test scores, family income influenced perceptions about the affordability of college as well as college attendance. Parents in the lowest income category were more than four times as likely to say they could see no way of affording college and almost twice as likely to say they had been unable to get information on applying for financial aid.⁸⁷ And parental perceptions resonate with their children. Among the top-scoring students studied, 57 percent of those from the lowest income category said they did not plan to attend postsecondary education because they could not afford it, compared with 38 percent from the middle-income group and 21 percent from the high-income group.⁸⁸ Fully 19 percent of low-income, top-scoring students reported they

⁸² Zemsky, 6.

⁸³ Zemsky, 6.

⁸⁴ Akerhielm et al., ES-4.

⁸⁵ General Accounting Office, *AO-48 Higher Education: Tuition Increasing Faster than Income and Public Colleges’ Costs* (Washington, DC: Government Printing Office, 1996).

⁸⁶ Akerhielm et al.

⁸⁷ Akerhielm et al., 47.

⁸⁸ Akerhielm et al., 25.

could not attend postsecondary schooling because they needed to help support their families.⁸⁹ In disproportionately poor Kentucky, these findings suggest that a substantial portion of the state's young people do not see postsecondary education as a possibility in their lives.

Students from poor families are also discouraged by the dual demands of earning and learning that they disproportionately confront. Again, when the experiences of top-scoring students alone were compared, 81 percent of those from the lowest income group reported working while taking academic courses, compared with 72 percent from the middle-income group and 55 percent from the highest income group.⁹⁰ While the demands of student employment are frequently cited as lengthening the time required to complete course requirements, it is one that clearly has a disproportionate effect on students from low- and middle-income families. As a consequence, these students are likely to incur more debt, which effectively diminishes the returns on the credentials they are seeking. In short, students from low-income families must work harder for a postsecondary education and anticipate fewer returns.

As public institutions of higher education focus more intensely on financial goals and shift to a market-driven approach for recruiting students, they run the risk of further diluting and, ultimately, displacing policies of inclusion and access, the Institute for Research on Higher Education argues. "The nation drifts further toward a practice of educational triage—in which the most likely survivors are known in advance and accorded a lion's share of the resources the public makes available in support of public higher education." The "most likely survivors," research confirms, are products of middle- and upper-income families with the financial and social resources to enhance academic outcomes and enable access. And those who do not flourish or "survive" in today's economy because they lack postsecondary education and training are precisely those whom noble investments in public education were once intended to benefit most—the nation's poor.

The Luxury of Good Health

A 1998 REPORT FROM THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) documents the demographic tiers of health status in the United States. In short, the more affluent and the more educated Americans are, the healthier they are. Generally, blacks and Hispanics also were found to have poorer health, largely as a consequence of disproportionate poverty.⁹¹ While CDC researchers found economic tiers within every racial or ethnic group, wealthier blacks, for example, reported better health than poor whites. "It's a sad thought, but maybe we've reached a point where health is a luxury," observed Dr. Elsie Pamuk, lead

⁸⁹ [Akerhielm et al., 25.](#)

⁹⁰ [Akerhielm et al., ES-3.](#)

⁹¹ Centers for Disease Control and Prevention (CDC), *Health, United States, 1998* (Washington, D.C.: U.S. Department of Health and Human Services, 1998).

author of the report.⁹² An economic ladder was evident for virtually every health risk factor, every disease, from chronic conditions such as heart disease to communicable diseases such as HIV infection, and every cause of death. The study found that a 45-year-old man, black or white, in a family with an annual income of at least \$25,000 could expect to live about seven years longer than one with an income below \$10,000.⁹³ For a relatively poor state like Kentucky, these findings portend economic and social disruption of families, disturbing losses of productivity, and high public costs.

Indeed, the same issues that underpin virtually every public policy dilemma in the Commonwealth—poverty and undereducation—affect the health status of Kentuckians. The poor, who are typically undereducated, are more likely to suffer from chronic disease, to die prematurely, and to make the very choices that increase the likelihood of these outcomes. Indeed, high-risk behaviors abound among those with less education and lower incomes. They are, on average, more likely to be overweight and obese, to lead sedentary lifestyles, to have hypertension, to drink heavily, and to smoke.⁹⁴ Moreover, our current health care system effectively rations health care based upon the ability to pay, excluding many poor and low-income individuals from the preventive health services and the medical attention they need. The working poor are most likely to number among those without coverage. As a consequence, the future health status of Kentuckians remains inextricably linked to how successfully we reckon with the awful legacy of poverty and undereducation.

Health Insurance and Access to Care. Nationally, according to the Agency for Health Care Policy and Research, most (60 percent) who experience difficulties or delays in getting health care cite their inability to afford it as their main obstacle.⁹⁵ In Kentucky, a significant portion of the population lacks health insurance and the access to care it enables. The Census Bureau's most recent estimates of the state's uninsured population place the 1995-1997, three-year average at 15.0 percent of the population or approximately 586,218 people,⁹⁶ compared with a higher national average of 15.7 percent.⁹⁷ Between 1987 and 1996, the Bureau estimates that Kentucky's uninsured population grew from a low of 468,000 people or 12.5 percent of the population in 1993 to a high of

⁹² Brigid Schulte, "Study's Lesson: 'Prosper and You'll Live Long'" *Lexington Herald-Leader* 30 July 1998: C9.

⁹³ CDC, *Health, United States, 1998*: 88.

⁹⁴ For national data, see the CDC report, *Health, United States, 1998*. For state data, see the periodic reports, *Health Behavior Trends*, from Kentucky's Behavioral Risk Surveillance System, Department of Public Health, Division of Epidemiology and Health Planning or the Division's 1996 report, *Healthy Kentuckians 2000*.

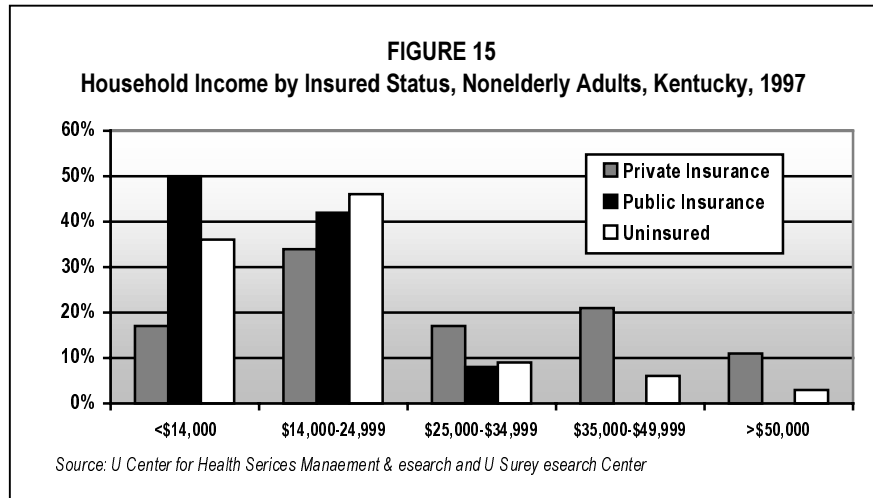
⁹⁵ Shelly Reese, "Access to Care," *American Demographics* Aug. 1998:57.

⁹⁶ Based on U.S. Census Bureau population estimates for 1996 as reported by the State Data Center, Louisville, Kentucky.

⁹⁷ U.S. Bureau of the Census, March 1997 Current Population Survey and Health Insurance Coverage, 1995, Series P60-195, Department of Commerce, Washington, DC.

601,000 people or 15.4 percent of the population in 1996.⁹⁸ Census Bureau estimates of the 1997 uninsured population suggest that it may have declined somewhat, from a 1996 estimate of 15.4 percent to 15 percent, compared with an estimated 1997 national uninsured population of 16.1 percent.⁹⁹

The University of Kentucky's 1997 Kentucky Health Survey found that 16.1 percent or nearly 400,000 working-age (18 to 64) Kentuckians were without health insurance.¹⁰⁰ The uninsured in Kentucky, like most around the nation, are more likely to be poor. In an analysis of these survey data, the University of Kentucky Center for Health Services Management & Research found that "the proportion of uninsured adults begins to drop off at a household income level between \$25,000 and \$34,999 and continues to decline into higher income categories."¹⁰¹ As illustrated in Figure 15, for example, 46 percent of those with annual incomes between \$14,000 and \$24,999 had no health insurance in 1997 compared with 3 percent of those with incomes in excess of \$50,000.¹⁰² Overall, the uninsured in Kentucky are more likely to live in rural areas, to have less than a college education, and more likely than the insured to report poor health and less likely to report excellent health.¹⁰³



A detailed analysis of two-year averages from the Census Bureau's 1994 and 1995 Current Population surveys by Urban Institute researchers reveals the underlying demographics of health insurance coverage. Among the nonelderly

⁹⁸ U.S. Bureau of the Census, Current Population Survey, March 1997.

⁹⁹ U.S. Bureau of the Census, "Health Insurance Coverage: 1997—State Uninsured Rates," online, Census Bureau Web site (<http://census.gov>), Internet, 14 Dec 1998.

¹⁰⁰ F. Douglas Scutchfield, Joyce Beaulieu and Kevin C. Lomax, "Who Are Kentucky's Adult Uninsured and What Impact Does Being Uninsured Have on Those Individuals?" University of Kentucky Center for Health Services Management & Research Policy Brief, July 1998.

¹⁰¹ Scutchfield et al.

¹⁰² Scutchfield et al.

¹⁰³ Scutchfield et al.

uninsured in the state, married-couple families represent the largest group of uninsured (40.5 percent) while single-parent families, which are typically poor, headed by women and often Medicaid eligible, are the smallest group of uninsured families (8.8 percent).¹⁰⁴ Most of the nonelderly uninsured (57.3 percent) are in households with only one adult full-time wage earner, and 70.6 percent of the nonelderly uninsured have a family income below twice the poverty level.¹⁰⁵

Further, Census data show that thousands of children may be at risk. More than a third (35.6 percent) of children in the state, nearly 366,000 of those under age 18, either had no health insurance (13.2 percent) or were poor enough to qualify for Medicaid coverage (22.4 percent) during 1994-95.¹⁰⁶ Poverty and diminished access to preventive health care are associated with poor future health outcomes that, given the breadth of this population of children, could frustrate efforts to revitalize the state's economy. The Kentucky Children's Health Insurance Program, which will go into effect July 1, 1999, is expected to close a part of the widening gap in health insurance for children by extending low-cost coverage to families with incomes up to 200 percent of the poverty level. Long-term, however, the federal dollars that help finance this program are not guaranteed.

Women, most of whom are working-age heads of households, are also prominent among those poor enough to qualify for Medicaid in Kentucky. Among the oldest recipients, those ages 65 and older, 73 percent were female in January 1998. Women comprised 62.2 percent of the nearly 200,000 adult, working-age (age 18 to 64) recipients.¹⁰⁷

Welfare reform is likely to have a significant influence on the Medicaid eligibility of many poor parents, as they move from welfare rolls into low-wage jobs that seldom offer benefits. Between January 1997 and January 1998, the combined effects of a buoyant economy and welfare reform reduced the number of working age adults on Medicaid by 6,000. Though Medicaid coverage has helped many make the transition from welfare dependency to employment, the uninsured population may ultimately rise as a result of welfare reform. In the absence of broadened coverage under Medicaid, few of these former recipients will find affordable alternatives for health insurance.

The Health Consequences of Poverty. Not surprisingly, low socioeconomic status is either directly or indirectly linked to leading causes of death. It is an established risk factor for heart disease, lung and possibly cervical cancers, and some evidence suggests that strokes are more common among low-income people than among the more affluent.¹⁰⁸ In Kentucky, however, a number of behav-

¹⁰⁴ David W. Liska, Niall J. Brennan and Brian K. Bruen, *State-Level Databook on Health Care Access and Financing* (Washington, DC: The Urban Institute, 1998).

¹⁰⁵ Liska et al.

¹⁰⁶ Liska et al.

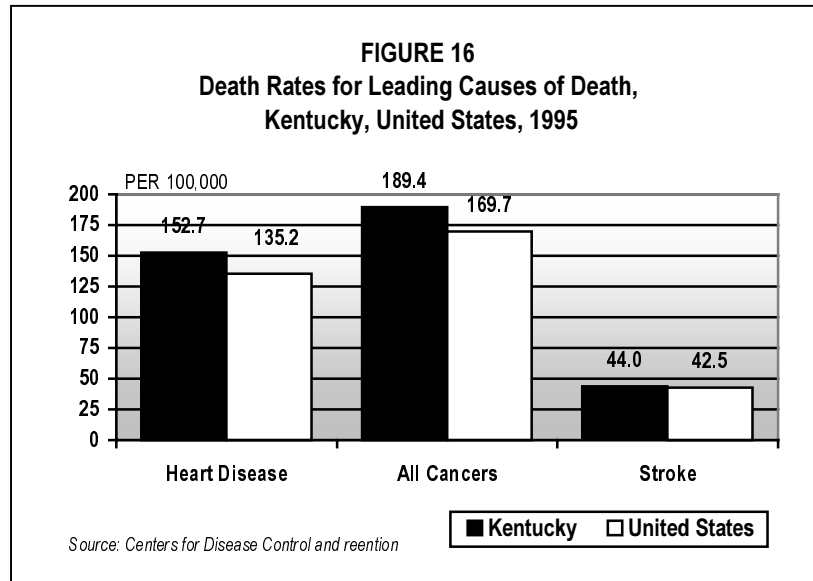
¹⁰⁷ KDMS.

¹⁰⁸ American Heart Association, "Stroke Risk Factors," online

(http://www.americanheart.org/Heart_and_Stroke_A_Z_Guide/stroke.html), Internet, 28 Oct. 1998.

ioral risk factors that are clearly linked to the major causes of death, including hypertension, smoking, diet, obesity, and sedentary lifestyles, are far more prevalent among low-income and undereducated individuals.¹⁰⁹ Additionally, poor, less educated individuals are less likely to get periodic health screening that is key to detecting and preventing major causes of death.

As illustrated in Figure 16, death rates per 100,000 population are considerably higher in Kentucky for both heart disease and cancer and somewhat higher for stroke, the third leading cause of death. Citizens of the Commonwealth are at particularly high risk for heart disease, the leading cause of death for both men and women. Kentucky is part of what has come to be called “Coronary Valley,” a cluster of states bordering the Ohio and Mississippi rivers where rates of heart disease mortality exceed those of states in the lowest quartile of coronary heart disease mortality by 56 percent.¹¹⁰ When more than 30 specialists and researchers convened at the University of Kentucky for an April 1998 symposium on the Coronary Valley phenomenon, they concluded that a constellation of behavioral factors were at the root of this regional health anomaly.¹¹¹ All, including obesity, diet, lack of physical activity, hypertension, and cigarette smoking rates, have been linked to lower socioeconomic status.



¹⁰⁹ Kentucky Department for Public Health, Division of Epidemiology and Health Planning, “Kentuckians at Risk: An Overview of the Behavioral Risk Factors of Kentuckians, 1997” (brochure) and *Health Behavior Trends 1994-1996*. State and national data from the Behavioral Risk Surveillance System, to which data collected by the Division of Epidemiology and Health Planning are contributed, are reported by the Centers for Disease Control and Prevention in *Chronic Diseases and Their Risk Factors: The Nation’s Leading Causes of Death, 1998*.

¹¹⁰ “Consensus Statement of Coronary Valley Symposium Participants,” University of Kentucky Medical Center, Lexington, Kentucky, 17 April 1998.

¹¹¹ “Consensus Statement . . .”

A similar relationship exists between health risk factors and income and education. Kentuckians who are poor or undereducated are more likely to report having been diagnosed with hypertension, leading sedentary lives, being overweight, and failing to eat five or more servings of fruits and vegetables a day. Moreover, the same relationship is evident when Kentuckians are asked if they have had important health screenings, for cholesterol for example. Poor, low-income women are also less likely to report having had a Pap smear or, in the case of those over age 40, to report ever having had a mammogram.

As shown, women in the state who are lower income, older, unemployed, undereducated, widowed or separated, or African-American are less likely to have had a mammogram (Table 8).¹¹² Insurance status appears to be a strong predictor of whether women have recommended mammograms, as the lowest rates of mammogram screening are seen among women who are unemployed or working but poor. Women in households with incomes below \$24,000, for example, were far less likely to have had a mammogram than those in households with higher incomes.

The health status of disproportionately poor minority groups will become an issue of increased concern for Kentucky as the Hispanic population grows and blacks continue to experience poorer health outcomes than whites. The disparities between the health status of whites and minorities are so dramatic that the President pledged \$400 million in 1998 to an effort aimed at closing them. For example, four times as many Hispanics and eight times as many blacks became infected with HIV in 1997.¹¹³ Nationally, AIDS is now the fourth leading cause of death among blacks.¹¹⁴ In Kentucky, one third of AIDS infection, according to Dr. Rice Leach, Director of the Department of Public Health in Kentucky, is occurring among

TABLE 8
PERCENT OF WOMEN WHO HAVE HAD A
MAMMOGRAM WITHIN PAST
TWO YEARS, AGE 50 AND OLDER,
KENTUCKY, 1997

Age	
50-59	75.4%
60-69	69.2%
70+	61.6%
Race	
White	69.0%
Black	60.7%
Marital Status	
Married	76.3%
Divorced	69.7%
Widowed	56.5%
Never Married	69.2%
Income	
<\$10,000	55.8%
\$10-\$14,999	54.4%
\$15-\$19,999	63.4%
\$20-\$24,999	60.2%
\$25-\$34,999	83.4%
\$35-\$49,999	79.8%
\$50-\$74,999	85.6%
>\$75,000	100%
Employment	
Employed	77.0%
Self-Employed	82.8%
Out of Work >1 yr.	50.8%
Out of Work <1 yr.	43.7%
Homemaker	65.8%
Retired or Disabled	65.9%
Education	
Elementary School	53.0%
Some High School	56.9%
High School or GED	74.5%
Some College or Tech	78.3%
College Degree	83.2%

Source: Behavioral Risk Surveillance System, 1997; Analysis by UK Center for Health Services Management and Research

¹¹² Based on tabulations from the 1997 Behavioral Risk Factor Surveillance System.

¹¹³ Schulte, "Study's Lesson . . ."

¹¹⁴ CDC, *Health, United States, 1998*: 212.

African-American women, who in 1990 comprised just 4 percent of the population.

In coming years, the aging of the population will focus more of our health care resources on preventive care than medical intervention. Here, demographic trends suggest that older Kentuckians are likely to be poorer and thus more likely to experience higher morbidity and mortality than their peers in the nation. While the economic status of older Kentuckians has improved steadily over the decades, 20.6 percent of Kentuckians 65 years and older were poor in 1990 compared with 12 percent nationally. Older women, who live between six and seven years longer than men on average, experienced particularly high rates of poverty: 24.5 percent of women 65 and older were poor compared with 14.9 percent of men in the same age group. As our health care system strains to manage the cost of caring for a ballooning older population, the health care of citizens of the Commonwealth could be further compromised.

Implications for the Future

NUMEROUS STUDIES CONFIRM A DEEP DIVIDE BETWEEN THOSE AT THE BOTTOM of our nation's economic ladder and those at the top, and, by some estimates, that divide is wider in Kentucky than in any other state. Today economic health by a number of aggregate measures coexists in our state and nation with widespread and persistent poverty, a circumstance that could dramatically undermine future prosperity. Because low-income, undereducated individuals are far less likely to possess the education and training needed to prosper in today's economy, a significant portion of our population here in Kentucky lacks the tools needed to escape poverty. Over the long term, the consequences are likely to be felt broadly, as overall productivity is undermined, competitiveness diminished, and economic growth forestalled.

Tragically, a host of obstacles, from cultural to economic, discourage precisely those individuals who would benefit most—the poor and uneducated—from tapping resources that would enable them to climb the earnings ladder. Both access to information technology and participation in postsecondary education are affected by income and education. Just as young people from poor, undereducated families are the least likely to attend college, poorer, less educated individuals are the least likely to use computers, tools that are associated with higher earnings. As technology proliferates in workplaces and education becomes inextricably linked to earnings, the imperative of addressing the underlying causes of these inequities grows. Today's widespread skill shortages are evidence of lost economic potential that will only grow, so long as the tools to higher earnings are perceived as being out of reach.

Just as poverty poses formidable obstacles to higher earnings, it dramatically affects the health of our citizenry. Low socioeconomic status is not only linked to major causes of death and to higher incidences of behavioral risk factors, it is also the principal reason for delayed or deferred health care. Those most likely to be uninsured today are working poor. As a consequence of our

current system of rationing health care based on economic status, enormous societal costs, including lost productivity and undermined family support structures, are incurred.

Over the long term, the persistent and deep inequities that limit access to vital public infrastructure in the United States will severely undermine democracy and citizen confidence in equal opportunity. Without concerted attention to eliminating the inequities in access to such fundamental services such as health care and education, the gap between the “haves” and “have nots” will only widen and the resultant consequences worsen.

CHANGING GOVERNMENTAL RESPONSIBILITY

Inconsistencies of opinion, arising from changes of circumstances, are often justifiable.

— Daniel Webster, 1846

GOVERNMENT CANNOT DIRECTLY CONTROL MANY OF THE FORCES AFFECTING Kentucky's economy, social structures, institutions of education, families, and citizens. Nevertheless, many look to government for help in responding to and navigating through the tumultuous times ahead. But government does not exist in isolation from its citizens. The same trends and forces that are the source of great consternation and infinite optimism for citizens are also affecting government. But government's ability to respond to these new forces is hampered by its commitment to grapple with old challenges. Already we are witnessing a redistribution and redefinition of governmental responsibilities in our country that has come partly in response to unprecedented fiscal pressures. In coming years, these pressures will mount and, increasingly, we may look more to one another and to the communities in which we live for the support we historically expected from government. Irrespective of our political opinions or ideological persuasions, the extent to which we anticipate and prepare for these shifts in responsibility will affect our ability as a state to manage the challenges ahead.

The Looming Fiscal Wake-up Call

THE BABY BOOM WAS PERHAPS THE MOST SIGNIFICANT DEMOGRAPHIC EVENT in the post-World War II era. What started as an expression of unprecedented confidence in the future at mid-century has evolved into a sense of uncommon apprehension about the future as we approach the new millennium. The source of the apprehension is how we, as a nation, will pay for the enormous costs associated with millions of retiring Baby Boomers.

According to the Congressional Budget Office (CBO), the retirement of the Baby Boom generation will drive up the costs of three important government programs: Social Security, which provides income to retired and disabled workers, their spouses, and others; Medicare, which helps to pay the costs of medical care for elderly and disabled people; and Medicaid, which helps to finance medical care for certain low-income people, including the elderly.¹¹⁵ Moreover, the CBO warns, "Continued expansion in the volume and intensity of services that Medicare and Medicaid finance will put upward pressure on the federal spending for each beneficiary enrolled in those programs."¹¹⁶ The "upward pres-

¹¹⁵ Congressional Budget Office (CBO), *Long-Term Budgetary Pressures and Policy Options* (Washington, DC: Author, March 1997) xi.

¹¹⁶ CBO, xi.

sure” of these programs will lead to severe budgetary consequences if current forecasts come to fruition. For example, the highly respected Urban Institute predicted in 1998:

Within three decades, according to projections by the Social Security and Medicare actuaries, the pension and health demands of retiring baby boomers, combined with the rising costs of health care and interest on the debt, will eat up close to 100 percent of the projected revenues at current tax rates—leaving literally nothing for any other public expenditure (whether it be highways, defense, education, the environment, public safety, or the safety net).¹¹⁷

Clearly, policymakers at the national level will come under increasing pressure to put these programs on a more stable and sustainable fiscal footing. Otherwise, CBO has warned that “deficits will mount and seriously erode future economic growth.”¹¹⁸

The Difficulty of Responding to New Fiscal Challenges

SOME HAVE COMPARED THIS FISCAL TRANSFORMATION TO A STRAIGHT JACKET. Because deficit reduction has been so central to the federal legislative and budgetary process, “virtually all major new spending initiatives have been set aside as impossible given the federal budget constraints.”¹¹⁹ And yet, as we have discussed above, deficit reduction is only part of the reason policymakers will have enormous difficulty in responding to new challenges with new federal programs. Because of programmatic and spending decisions made years ago, the proportion of the federal budget that is and will be available for new federal programs continues to shrink. “Almost 60 percent of the federal budget is already committed to spending obligations (mandatory spending or entitlements in budget language) that are built into public policy. Thirty-five years ago, only 30 percent of the federal budget was so obligated,” Urban Institute researchers observe.¹²⁰

Clearly then, it will be problematic for the federal government to assume new financial responsibilities to help close the deepening divide we have previously described. In fact, for both fiscal and political reasons, some believe that we are in the midst of “an historic shift of responsibility and authority for major social programs from the federal government to the states.”¹²¹ Welfare reform, of course, is the exemplar of this redistribution of responsibility. But under the

¹¹⁷ C. Eugene Steuerle, Edward M. Gramlich, Hugh Hecla, and Demetra Smith Nightingale, *The Government We Deserve: Responsive Democracy and Changing Expectations* (Washington, DC: The Urban Institute, 1998) 78-9.

¹¹⁸ CBO, xi.

¹¹⁹ Steuerle et al., 57.

¹²⁰ Steuerle et al., 58.

¹²¹ Urban Institute, “Assessing the New Federalism: Research Focus” online, Urban Institute Web site (<http://newfederalism.urban.org/html/research.html>), Internet, 10 Nov. 1998,

single phrase of “welfare reform” reside a multitude of health care, income and employment, child development, and other social services programs. The federal government is still funding these various programs through block grants, but the overall financial relationship between the federal government and the states will likely become strained as the “fiscal straight jacket” tightens.

According to the National Association of State Budget Officers (NASBO), “The share of total state spending financed by federal funds declined from 26.3 percent in fiscal 1996 to 25.8 percent in fiscal 1997. Federal aid to states is expected to continue on a downward trend for the foreseeable future.”¹²² As Baby Boomers begin to retire in large numbers, it will become increasingly unlikely that this downward trend will reverse course. It appears that either by default or by design the federal government could gradually divest itself of responsibility for administering and funding an array of programs. This means, of course, that the state’s financial burden could become heavier in the future.

Kentucky’s Fiscal Fitness

TO MANAGE THE TRENDS AFFECTING THE STATE AND SEIZE THE MANY OPPORTUNITIES on the horizon, Kentucky must put its limited resources to work efficiently and effectively. Expenditures on health and education are consuming larger amounts of state revenues, while federal support for traditional programs is falling. Since 1980, programs and projects traditionally funded jointly by federal, state, and local expenditures have received a smaller share of their funds from the federal government. This decline includes decreases in the percentage of federal funding for welfare and social services, Medicaid, transportation, housing, community development, and labor training.¹²³ At the same time, voters are demanding more services and lower taxes—government that does more with less.

While federal funds fall and tax reductions gain political momentum, the cost of important budget items continues to grow. Indeed, our analysis indicates that Kentucky’s projected expenditures are increasing faster than projected revenues.¹²⁴ This will result in a long-term structural deficit.¹²⁵ And despite recent budget surpluses, Governor Patton has warned legislators that the state is not

¹²² National Association of State Budget Officers (NASBO), online, NASBO Web site (<http://www.nasbo.org/pubs/exprpt/serexec.htm>), Internet, 7 Nov. 1998.

¹²³ Lawrence Hush, “The Federal, and the State and Local Roles in Government Expenditures,” *Public Budgeting & Finance* Summer 1993.

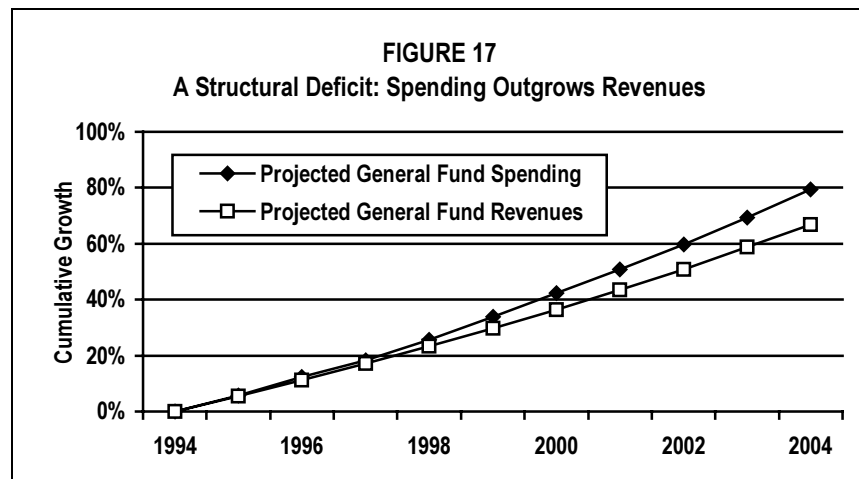
¹²⁴ See Peter Schirmer, Michael T. Childress, and Charles C. Nett, *\$5.8 Billion and Change: An Exploration of the Long-Term Budgetary Impact of Trends Affecting the Commonwealth* (Frankfort, KY: Kentucky Long-Term Policy Research Center, 1996).

¹²⁵ A structural deficit is not a single-year shortfall, which might occur as the result of an unforeseen natural disaster, a new mandate from the federal government, or a sluggish economy. Rather, a structural deficit is a long-term crisis; it occurs when revenues are projected to consistently grow more slowly than expenditures over several years. Because many states cannot actually run a deficit, certain expenditures may be neglected, sometimes for years, in order to balance the books.

collecting revenue as quickly as was forecasted, which could cause “a major financial crisis” if it continues.¹²⁶

We project expenditures to grow approximately 6 percent a year through Fiscal Year (FY) 2004, compared with 5.3 percent annual growth for revenues. The difference may not seem like much, but at this rate, expenditures would grow 79 percent between FY 1994 and FY 2004, while revenues would only grow 67 percent (Figure 17). Even starting with a surplus in FY 1994, we project that expenditures will exceed revenues by more than 4 percent in FY 2004.¹²⁷ This deficit will exist only in theory because by law spending will have to be less than revenue. Rather, this shows that spending could grow at an unsustainable rate, given the current tax structure and our assumptions about a variety of factors.

This analysis illustrates how a number of long-term trends are driving expenditures upward at a faster rate than revenues, even without “an historic shift of responsibility and authority for major social programs from the federal government to the states.” If the latest incarnation of “new federalism” results in a long-term transfer of responsibility from the federal level to the states for a variety of programs, it will surely exacerbate Kentucky’s structural deficit.



¹²⁶ Angie Muhs, “Patton Says State Could Face Money Problems,” *Lexington Herald-Leader* 17 Oct. 1998: C1.

¹²⁷ A recent study by the National Education Association is more optimistic about Kentucky’s long-term budgetary outlook. The report, *The Outlook for State and Local Finances: The Dangers of Structural Deficits to the Future of American Education*, prepared by Dr. Hal Hovey, indicates that by the year 2006 Kentucky will be among only 10 states to have a state budget structural surplus. Available at <http://www.nea.org/nr/981118.html>.

The Importance of Civil Society

IN AN ERA OF FISCAL CONSTRAINT, IT IS LIKELY THAT GOVERNMENTS WILL LOOK increasingly to community-based organizations, nonprofits, businesses and citizens to forge partnerships and relationships to meet new challenges—and for good reason. Studies have shown a link between participation in civil society and higher levels of prosperity and higher achievement in schools.¹²⁸ Brookings Institution researchers Jeffrey Berry, Kent Portney, and Ken Thomson argue that increased citizen participation not only positively affects citizens' perceptions of the communities they live in, but it also increases the legitimacy and enhances the status of governmental institutions.¹²⁹ Civil society can also tackle problems such as poverty, illiteracy, and drug abuse that government and the market have failed to eradicate.¹³⁰ Some research even suggests that members of communities with strong civil societies enjoy better health and live longer.¹³¹

In his 1993 book, *Making Democracy Work*, Robert Putnam concluded that the wealth and civic health found in the regions of northern Italy were due in large part to civil society's strong and deeply rooted traditions. "These communities did not become civic simply because they were rich," he wrote in *The American Prospect*. "The historical record strongly suggests precisely the opposite: They have become rich because they were civic. The social capital embodied in norms and networks of civic engagement seems to be a precondition for economic development, as well as for effective government."¹³² In short, the strength of the ties that bind us may help us meet future challenges.

The Status of Kentucky's Civil Society

DISTILLED TO THEIR ESSENCE, SOCIAL CAPITAL IS ABOUT ATTITUDES AND CIVIL society is about activities. By attitudes we mean how people think about other individuals and their communities. Do they trust others? Take pride in their communities? Feel safe in them? Scholars such as Fukuyama and Putnam focus on attitudes—specifically trust—as the basis for strong civil society. By activities we mean things like volunteering, charitable giving, and organizing a community group. Presumably, trust, civic pride, and security will lead people

¹²⁸ For example, see Robert D. Putnam, "The Prosperous Community: Social Capital and Public Life," *The American Prospect* Spring 1993. Also, Jay Braatz and Robert D. Putnam, "Community-Based Social Capital and Educational Performance: Exploring New Evidence," unpublished draft, 1998.

¹²⁹ Jeffrey Berry, Kent Portney and Ken Thomson, *The Rebirth of Urban Democracy* (Washington, DC: Brookings Institution, 1993).

¹³⁰ Government may be increasingly unable to address these issues as public budgets come under pressure from the convergence of major demographic and socioeconomic trends. These include the aging of the population, increasing stresses of the global economy, rising poverty rates among Kentucky's youth, and rising educational requirements of the workforce.

¹³¹ See Ichiro Kawachi and Bruce P. Kennedy, "Long Live Community: Social Capital as Public Health," *The American Prospect* Nov.-Dec. 1997. Also, Carolyn R. Shaffer, Kristen Anundsen, & M. Scott Peck, *Creating Community Anywhere: Finding Support and Connection in a Fragmented World* (New York: Perigee, 1993).

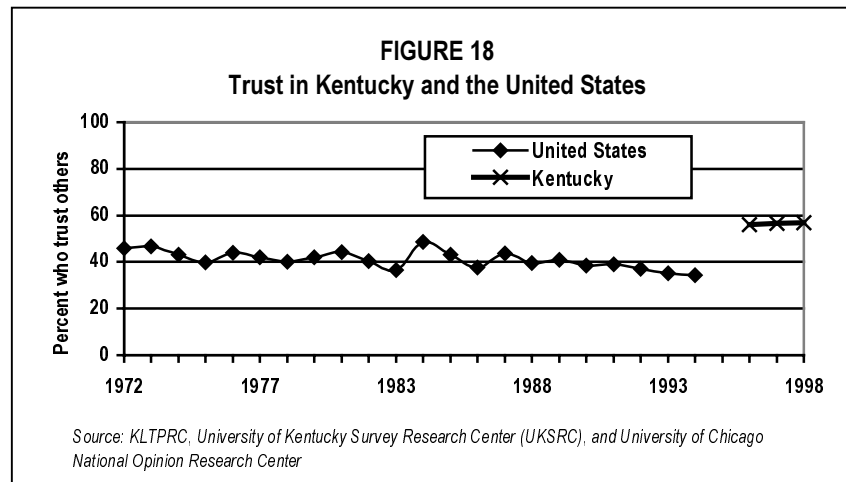
¹³² Putnam, "The Prosperous Community," 37.

to volunteer, to give to charities, and maybe even to organize a community group. Given the current and future importance of civil society, what is its current status in Kentucky?

Attitudes, Activities, and Civil Society. Kentuckians generally trust one another, take pride in their communities, feel safe, volunteer their time and money, and believe they can rely on friends and neighbors in times of need:

- 93 percent always or usually feel safe in their communities
- 91 percent have at least one person other than relatives whom they can rely on for help in times of need
- 57 percent usually trust others
- 60 percent volunteer in their communities
- 80 percent donate money to charity
- 33 percent are extremely proud of their communities (60 percent are somewhat proud)

Trust—Kentuckians show a higher level of trust than does the rest of the nation. In a general population telephone survey of Kentuckians, we asked: “Some people say you can usually trust others, and some people say you must be wary of others. Which is closer to your view?”¹³³ In 1998, 57 percent of the adults surveyed said they usually trust others,¹³⁴ compared with 35 percent nationally, according to a 1994 survey conducted by the National Opinion Research Center (see Figure 18).

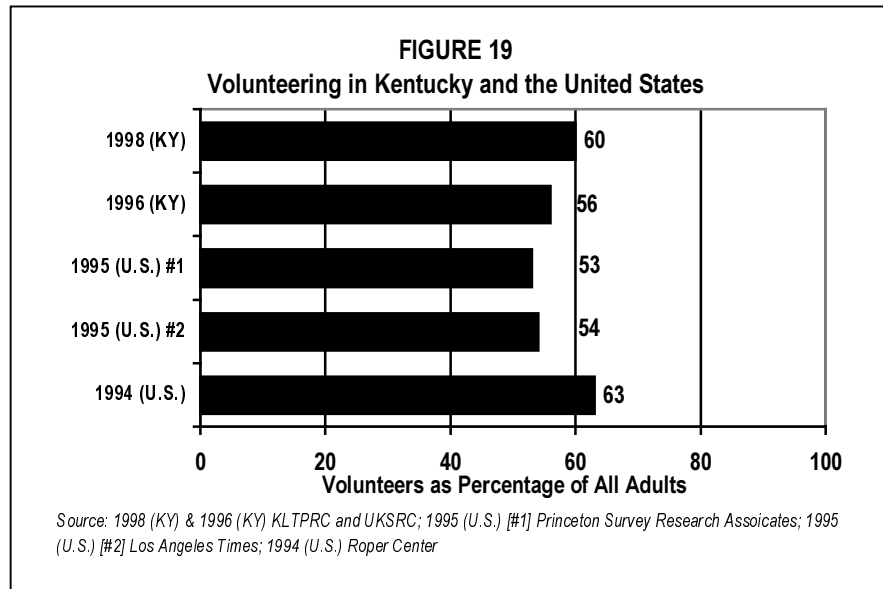


¹³³ The wording of this question is exactly the same in both state and national surveys.

¹³⁴ The survey was conducted by the University of Kentucky Survey Research Center. Households were selected using random-digit dialing, a procedure giving every residential telephone line in Kentucky an equal probability of being called. Calls were made from May 11 to June 10, 1998. The sample includes noninstitutionalized Kentuckians 18 years of age or older. The margin of error is approximately ± 3.82 percentage points at the 95 percent confidence level.

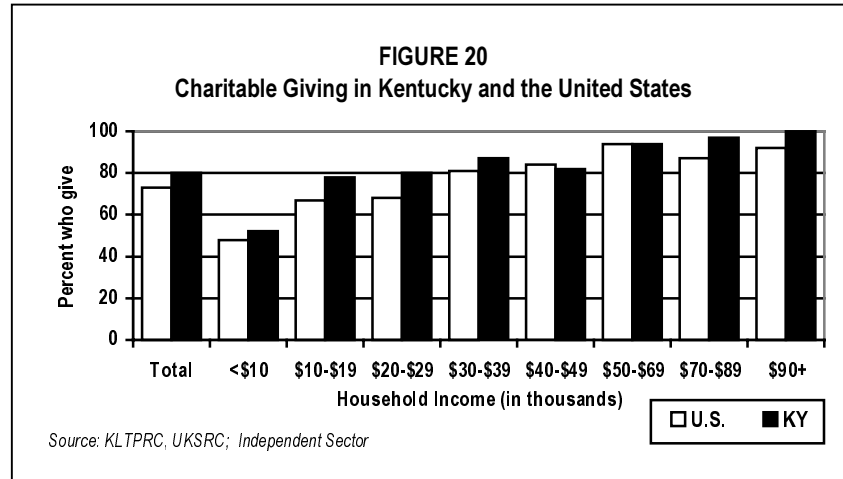
Volunteering—Kentucky’s volunteer activity is similar to the nation’s, both in terms of the percentage of the population that volunteers and the amount of time volunteers give. Figure 19 compares the results of Kentucky’s surveys, conducted in 1998 and 1996, to those of national surveys conducted in 1994 and 1995 by various organizations. The wording of the questions on the national surveys differed, but not significantly.

Sixty percent of Kentucky’s adults in the 1998 survey had volunteered for community activities in the past year.¹³⁵ This figure was up slightly from the 56 percent who had volunteered in 1996. The prime age group for volunteers is 30- to 50-year olds; volunteering is lower in both older and younger age groups.



Charitable Giving—Again, the research findings on Kentucky parallel those of national surveys. Eighty percent of Kentuckians gave to charity in 1998, compared with 73 percent nationally, according to a 1993 survey conducted by the Independent Sector. And as Figure 20 shows, in Kentucky and the rest of the nation, people at all income levels—even the lowest—make charitable contributions.

¹³⁵ Refer to footnote 134 for information regarding the survey.



Community Organizing—We asked the following question about community involvement in a 1996 survey: “Have you ever participated with a group of people (e.g., friends, neighbors or co-workers) to work together to solve a problem in your community (such as cleaning up public areas, neighborhood watch programs, etc.)?” If the person had, we then asked, “Were you the organizer or leader of that group effort?” Forty-five percent of adults have participated in a group to solve a problem in their community, and 10 percent helped organize such a group.

Implications for the Future

IT APPEARS THAT KENTUCKY’S CIVIL SOCIETY IS FLOURISHING. KENTUCKIANS are more trusting than the average American, most express pride in their communities, most usually feel safe, and almost everybody has somebody to rely on for help in times of need. About half of Kentucky’s adults actively participate in volunteer groups or other community organizations, and four out of five contribute to charity.

This is good news for Kentucky’s future. To the extent that federal and state governments are either unwilling or unable either to confront many of the fresh challenges or take advantage of the opportunities of the new millenium, Kentucky’s civil society appears to be well positioned to assume some additional responsibility. However, there are limits to what the nonprofit and volunteer sectors can do. National data suggest that many volunteer hours are dedicated to “informal” activities, such as free babysitting and cultural activities in support of theatres, museums, and similar institutions. Of the 93 million Americans counted as volunteers by the Independent Sector in 1995, less than 10 percent worked in the field of human services (a broad category that includes aiding the

homeless, family counseling, and helping the Red Cross), less than 4 percent worked as tutors, and only 1 percent worked as mentors or substance abuse counselors.¹³⁶

In short, considerable responsibility will continue to fall on the shoulders of government. With tight fiscal constraints, how government spends its money is subsumed into the broader issue of how it operates. State and federal government have embarked on efforts to reform processes and policies, heavily relying on the tools of the Information Age, and these reforms must be pushed forward. But people still matter. Research strongly suggests that our ability to seize new opportunities and overcome the legacy of persistent poverty, lagging personal income, and inadequate opportunity will depend upon the abilities of leaders at every level of the private, public, and nonprofit sectors.

¹³⁶ Independent Sector, as cited by Michael J. Gerson, "Do do-gooders do much good?" *U.S. News & World Report* 27 April 1997: 27.

